Anexos de catálogos: F, G, H, I, J

Anexo F:

Catálogo de Raco Electric Actuators (cilindro eléctrico compacto)

Anexo G:

Catálogo de Copley Controls Corp. (Motor lineal)

Anexo H:

Catálogo de Magnetic-Telesmart (columnas telescópicas)

Anexo I:

Catálogo de columnas telescópicas de mayor tamaño

I.1 Catálogo de Magnetic-Telesmart

I.2 Catálogo de Cytec

I.3 Catálogo de Alltec

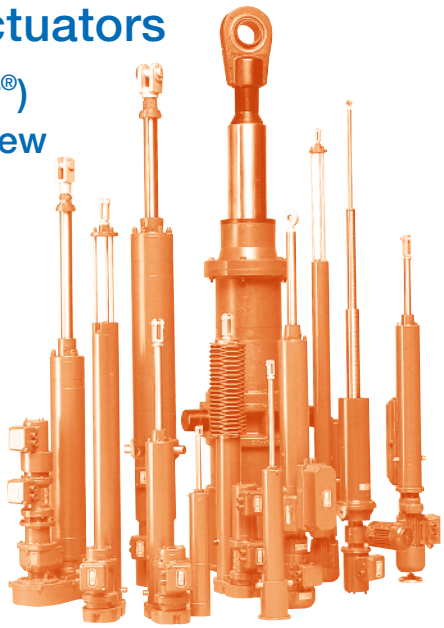
Anexo J:

Catálogo de Magnetic-Kom (unidades de control)

MODULAR SYSTEM

RACO Electric Actuators

(RACO Elektrozylinder®) Lead screw or ball screw



Size 3, 4, 5, 6, 7, 8

Linear Actuator Type 1

Dimensions, Performance, Weights

flexible

robust

powerful

A “Strong Team”

The electric linear actuators of the modular system can be supplied in several drive configurations to suit your application.

- Design **A**
  inline - with RACO motor
- Design **M**
  inline - with helical geared RACO motor
- Design **C**
  parallel with RACO motor and timing belt for Design C and N
- Design **N**
  parallel with RACO motor helical gear and timing belt for Design C and N
- Design **T**
  angle with RACO motor and worm gearbox

The modular construction enables us to also fit commercial ventilated (or continuous ventilated) motors, steppers or servo-motors as required.

RACO electric linear actuators are available with either self-locking acme lead screw drive or with precision ground ball screw, the latter being especially suitable for higher duty ratings or where high repeatability is required

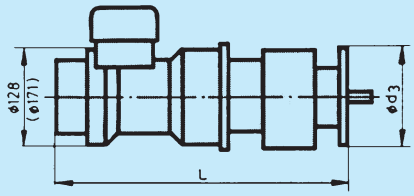
The modular system comprises:

- thrust unit
- coupling housing
- motor with gearing or timing belt drive
- electro- magnetic brake
- handwheel
- control features accessory housing variants

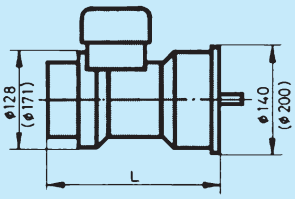
Standard Versions Size 3 (1 kN) – Size 8 (80 kN).

For higher thrust versions up to 600 kN (Size 9 to 11) refer separate data sheets.

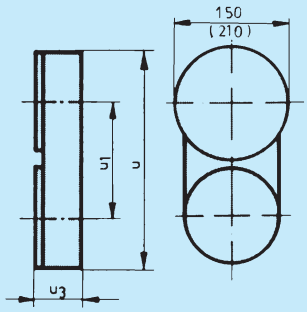
RACO SCHWELM



Helical geared motor for
-N-

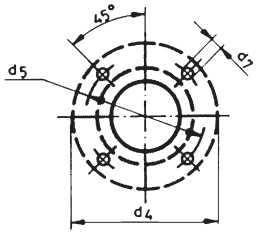


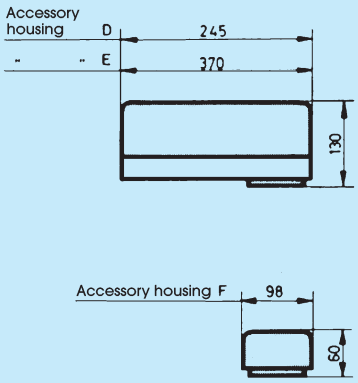
Motor for
-C-



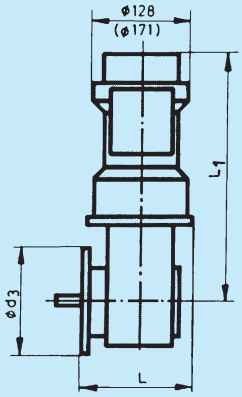
Drive housing for
-C-N-W-

Front flange mounting
Actuator sizes 3,4,5,6 = 4 holes
Actuator sizes 7,8 = 8 holes

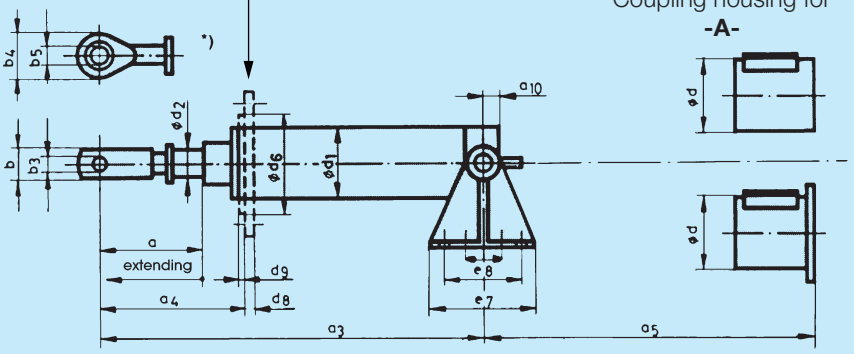




Lateral accessory housings for
-A-M-T-



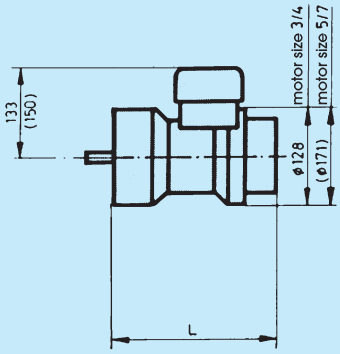
Right angle gear motor for
-T-



Thrust unit Y for
-A-M-C-N-T-

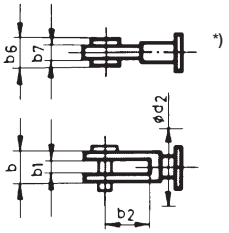
Coupling housing for
-A-

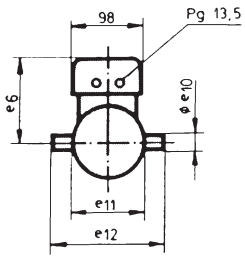
Coupling housing for
-M-T-



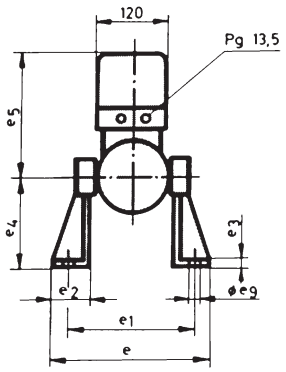
Motor for
-A-

*) **Rod eye**
front clevis optional
for sizes 3-7
(extra charge).



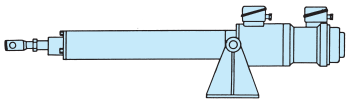


Trunnion brackets
for sizes 3-8 as option
(extra charge).

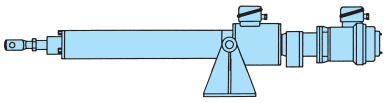


Our 5 types of construction A - M - C - N - T

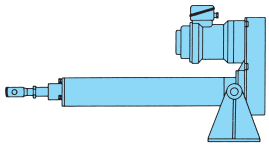
Electric Linear Actuator type **A**
with RACO direct drive motor



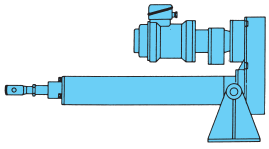
Electric Linear Actuator type **M**
with RACO helical geared motor



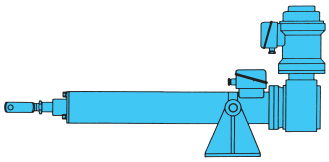
Electric Linear Actuator type **C**
with RACO direct drive motor

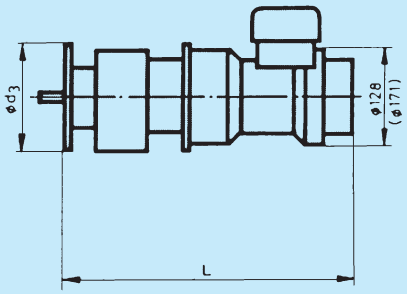


Electric Linear Actuator type **N**
with RACO helical geared motor

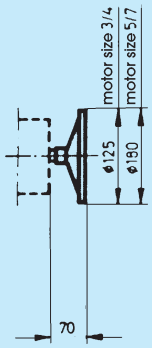


Electric Linear Actuator type **T**
with right angle gear motor

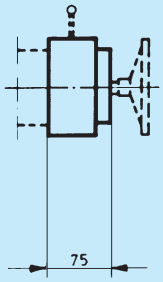




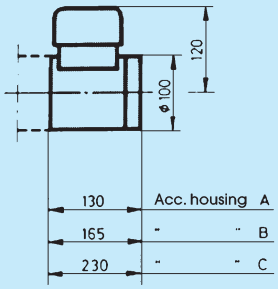
Helical geared motor
-M-



Handwheel for
-A-M-C-N-T-



Brake for
-A-M-C-N-T-



Rear accessory housings for
-A-C-N-

Examples for combinations of installation of accessories (consult factory for details)

Please consider for actuator type C

1. **Has the actuator only an impulse emitter for RPM and no further accessories you have to add acc. housing A.**
2. **Has the actuator an impulse emitter for RPM and further accessories you have to add to the housings A,B or C an additional housing of 100 mm length.**

F can be combined with A, B or C

Accessory Housing	Accessories which can be installed	Accessory Housing	Accessories which can be installed	These accessories can be added to D and E
A	2 adjustable limit switches 4 adjustable limit switches 2 Potentiometer 2 Electronic position emitter 4 -20 mA DMU 1	D	2 adjustable limit switches 2 adjustable limit switches + pot 4 adjustable limit switches 2 Multi - turn pot	1 Pulse transmitter for RPM or for pulse feedback signal 1 Blinking signal
B	2 adjustable limit switches + pot 2 adjustable limit switches + tandem pot 2 Multi - turn pot	E	2 adj. limit switches + DMU 1 2 adj. limit switches + tandem pot 4 adj. limit switches + pot 4 adj. limit switches + tandem pot 4 adj. limit switches + DMU 1 6 adj. limit switches 6 adj. limit switches + pot 6 adj. limit switches + tandem pot 6 adj. limit switches + DMU 1	
C	4 adjustable limit switches + pot 4 adjustable limit switches + tandem pot 2 adjustable limit switches + DMU 1 4 adjustable limit switches + DMU 1 6 adjustable limit switches 6 adjustable limit switches + pot			
F	1 Pulse transmitter for RPM or for pulse feedback signal			

TECHNICAL DATA AND DIMENSIONS FOR ELECTRIC LINEAR ACTUARORS

ACME SCREWS

	THRUST UNIT				DRIVE MOTOR																
Size	Stroke (mm)	a_3	Thrust (kN)	Speed (mm/s)	Type A			Type M			Type C			Type N			Type T			
					a_5	L**	Motor size	a_5	L**	Motor size	a_{10}	u_3	Motor size	a_{10}	u_3	Motor size	a_5	L	L_1**	Motor size
3	100	313	2,0	5				135	397	3				15	73	3	135	143	343	3
	200	413		10				135	397	3				15	73	3	135	143	343	3
	300	513		15				135	397	3				15	73	3	135	143	343	3
	400	613		20				135	397	3	15	73	3	15	73	3				
	500	713																		
	600	813	1,0	40	135	225	3				15	73	3							
	800	1013																		
	1000	1213																		
4	100	430	5,0	5				135	397	3				15	73	3	135	143	343	3
	200	530		10				135	397	3				15	73	3	135	143	343	3
	300	630		15				135	397	4				15	73	4	135	143	343	4
	400	730		30				135	397	4	15	73	4	15	73	4				
	500	830																		
	600	930	2,5	60	135	225	4				15	73	4							
	800	1130		120	135	225	4				15	73	4							
	1000	1330																		
5	100	455	10,0	5				135	397	3				18	116	3	135	143	343	3
	200	555		10				135	397	4				18	116	4	135	143	343	4
	300	655		15				135	397	4				18	116	4	135	143	343	4
	400	755		30				135	536	5	18	116	5	18	116	5				
	500	855																		
	600	955	5,0	80	150	285	5				18	116	5							
	800	1155		160*	150	285	5				18	116	5							
	1000	1355																		
6	200	670	20,0	5				160	397	4				27	116	4	175	158	371	4
	400	870		10				160	397	4				27	116	4	175	158	371	4
	600	1070		15				160	536	5				27	116	5	175	188	452	5
	800	1270		30				160	536	5				27	116	5				
	1000	1470																		
	1200	1670	10,0	60							27	116	5							
	1400	1870		100	160	285	6				27	116	6							
	1600	2070		160*	160	285	6				27	116	6							
	1800	2270																		
	2000	2470																		
7	200	745	40,0	5				225	565	5				48	116	5	215	188	452	5
	400	945		10				225	565	5				48	116	5	215	188	452	5
	600	1145		15				225	565	6				48	116	6	225	208	472	6
	800	1345		30				225	565	7				48	116	7				
	1000	1545																		
	1200	1745	20,0	60				225	565	7	48	116	6	48	116	7				
	1400	1945																		
	1600	2145	15,0	120	215	285	7				48	116	7							
	1800	2345																		
	2000	2545																		
8	200	780	80,0	5				260	593	5				90	155	5	270	234	513	5
	400	980		10				260	593	6				90	155	6	270	234	513	6
	600	1180		15				260	593	7				90	155	7	280	254	556	7
	800	1380																		
	1000	1580	60,0	5				260	593	5				90	155	5	270	234	513	5
	1200	1780		10				260	593	6				90	155	6	270	234	513	6
	1400	1980		15				260	593	6				90	155	6	280	254	556	6
	1600	2180																		
	1800	2380	40,0	30				260	565	7				90	155	7	270	234	513	7
	2000	2580																		

*) Not self-locking, brake "L" recommended.

**) Including end cover of 25mm, delete when accessory housings A, B or C are used.

RACO SCHWELM

TECHNICAL DATA AND DIMENSIONS FOR ELECTRIC LINEAR ACTUATORS

BALL SCREWS *

	THRUST UNIT				DRIVE MOTOR															
					Type A			Type M			Type C			Type N			Type T			
Size	Stroke (mm)	a_3	Thrust (kN)	Speed (mm/s)	a_5	L**	Motor size	a_5	L**	Motor size	a_{10}	u_3	Motor size	a_{10}	u_3	Motor size	a_5	L	L_1**	Motor size
3	100	313	2,0	5				135	397	3				15	73	3	135	143	343	3
	200	413		10				135	397	3				15	73	3	135	143	343	3
	300	513		20				135	397	3				15	73	3	135	143	343	3
	400	613																		
			1,0	40				135	397	3				15	73	3				
				80							15	73	3							
				120	135	225	3				15	73	3							
4	100	430	5,0	5				135	397	3				15	73	3	135	143	343	3
	200	530		10				135	397	3				15	73	3	135	143	343	3
	300	630		15				135	397	3				15	73	3	135	143	343	3
	400	730		30				135	397	4				15	73	4				
	500	830																		
	600	930	2,5	60				135	397	4	15	73	4	15	73	4				
	800	1130		120	135	225	4				15	73	4							
	1000	1330																		
5	100	455	10,0	5				135	397	3				18	116	3	135	143	343	3
	200	555		10				135	397	3				18	116	3	135	143	343	3
	300	655		15				135	397	4				18	116	4	135	143	343	4
	400	755		30				135	397	4				18	116	4	135	143	343	4
	500	855																		
	600	955	5,0	80				135	397	4	18	116	5	18	116	4				
	800	1155		160	150	285	5				18	116	5							
	1000	1355																		
6	200	670	20,0	5				160	397	3				27	116	3	160	143	343	3
	400	870		10				160	397	4				27	116	4	160	143	343	4
	600	1070		15				160	397	4				27	116	4	160	143	343	4
	800	1270		30				160	536	5				27	116	5				
	1000	1470																		
	1200	1670	10,0	60				160	536	5				27	116	5				
	1400	1870		100				160	536	5	27	116	5	27	116	5				
	1600	2070		200	160	285	6				27	116	6							
	1800	2270																		
	2000	2470																		
7	200	745	40,0	5				225	565	5				48	116	5	225	208	472	5
	400	945		10				225	565	5				48	116	5	225	208	472	5
	600	1145		15				225	565	5				48	116	5	225	208	472	5
	800	1345		30				225	565	5				48	116	5	225	208	472	5
	1000	1545																		
	1200	1745	20,0	60				225	565	5				48	116	5				
	1400	1945																		
	1600	2145	15,0	120				225	565	6	48	116	6	48	116	6				
	1800	2345		160							48	116	7							
	2000	2545																		
8	200	780	80,0	5				260	593	5				90	155	5	270	234	513	5
	400	980		15				260	593	6				90	155	6	270	234	513	5
	600	1180		25				260	593	6				90	155	6	270	234	513	6
	800	1380																		
	1000	1580	60,0	5				260	593	5				90	155	5	270	234	513	5
	1200	1780		15				260	593	5				90	155	5	270	234	513	5
	1400	1980		25				260	593	6				90	155	6	270	234	513	5
	1600	2180																		
	1800	2380	40,0	60				260	565	6				90	155	6				
	2000	2580																		

*) Not self-locking, brake required

**) Including end cover of 25mm, delete when accessory housings A, B or C are used.

MOTOR CAPACITIES AND FULL LOAD CURRENTS (3 X 400 V, 50 Hz)

Size	Thrust	Speed	Type A			Type M			Type C			Type N			Type T		
	(kN)	(mm/s)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)
3	2,0	5				8 : 1	0,06	0,2				8 : 1	0,06	0,2	8 : 1	0,12	0,3
	2,0	10				4 : 1	0,12	0,3				4 : 1	0,12	0,3	8 : 1**	0,12	0,3
	2,0	15				2,5 : 1	0,2	0,4				2,5 : 1	0,2	0,4	5 : 1**	0,2	0,4
	2,0	20				2 : 1	0,3	0,6	2 : 1	0,3	0,6	2 : 1	0,3	0,6			
	1,0	40	1 : 1	0,3	0,6				1 : 1	0,3	0,6						
4	5,0	5				12 : 1	0,12	0,3				12 : 1	0,12	0,3	12 : 1	0,12	0,3
	5,0	10				6 : 1	0,3	0,6				6 : 1	0,3	0,6	6 : 1	0,3	0,6
	5,0	15				4 : 1	0,4	0,8				4 : 1	0,4	0,8	8 : 1	0,4**	0,7
	5,0	30				2 : 1	0,7	1,4	2 : 1	0,7	1,4	2 : 1	0,7	1,4			
	2,5	60	1 : 1	0,7	1,4				1 : 1	0,7	1,4						
	2,5	120	1 : 1**	1,4	2,4				1 : 1**	1,4	2,4						
5	10,0	5				16 : 1	0,3	0,6				16 : 1	0,3	0,6	16 : 1	0,3	0,6
	10,0	10				8 : 1	0,7	1				8 : 1	0,7	1	8 : 1	0,7	1
	10,0	15				5 : 1	1,1	2				5 : 1	1,1	2	5 : 1	1,1	2
	10,0	30				2,5 : 1	1,7	3,5	2,5 : 1	1,7	3,5	2,5 : 1	1,7	3,5			
	5,0	80	1 : 1	2,0	4				1 : 1	2,0	4						
	5,0	160	1 : 1*	2,4	4,8				1 : 1*	2,4	4,8						
6	20,0	5				20 : 1	0,7	1				20 : 1	0,7	1	20 : 1	0,7	1
	20,0	10				10 : 1	1,1	2				10 : 1	1,1	2	10 : 1	1,1	2
	20,0	15				6,5 : 1	1,7	3,5				6,5 : 1	1,7	3,5	6,5 : 1	1,7	3,5
	20,0	30				3 : 1	4,0	8				3 : 1	4,0	8			
	10,0	60							1,5 : 1	4,0	6						
	10,0	100	1 : 1	4,8	9				1 : 1	4,8	9						
	10,0	160	1 : 1*	5,7	11				1 : 1*	5,7	11						
7	40,0	5				24 : 1	1,7	3,5				24 : 1	1,7	3,5	24 : 1	1,7	3,5
	40,0	10				12 : 1	2,4	5				12 : 1	2,4	5	12 : 1	2,4	5
	40,0	15				8 : 1	4,0	8				8 : 1	4,0	8	8 : 1	4,0	8
	40,0	30				4 : 1	7	14				4 : 1	7	14			
	20,0	60				2 : 1	7	14	2 : 1	5,7	11	2 : 1	7	14			
	15,0	120	1 : 1	8,5	19				1 : 1	8,5	19						
8	80,0	5				40 : 1	2,4	5				40 : 1	2,4	5	40 : 1	3,0	6
	80,0	10				20 : 1	4,8	10				20 : 1	4,8	10	20 : 1	5,7	11
	80,0	15				14 : 1	7	14				13 : 1	7	14	13 : 1	7	14
	60,0	5				40 : 1	2,0	4				40 : 1	2,0	4	40 : 1	3,0	6
	60,0	10				20 : 1	4,0	8				20 : 1	4,0	8	20 : 1	4,0	8
	60,0	15				14 : 1	5,7	11				14 : 1	5,7	11	14 : 1	5,7	11
	40,0	30				7 : 1	7	14				7 : 1	7	14	7 : 1	7	14

*) Not self-locking, brake "**L**" recommended
**) 3000 1/min, otherwise 1500 1/min motors

Higher thrusts, lower or higher speeds
and longer strokes are available,
depending on application.

Consult factory for details.

MOTOR CAPACITIES AND FULL LOAD CURRENTS (3 X 400 V, 50 Hz)

Size	Thrust	Speed	Type A			Type M			Type C			Type N			Type T		
	(kN)	ca. (mm/s)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)	Ratio (approx.)	Motor (KW)	FLA (Amps)
3	2,0	5				24 : 1	0,04	0,1				24 : 1	0,04	0,1	24 : 1	0,04	01
	2,0	10				12 : 1	0,06	0,2				12 : 1	0,06	0,2	12 : 1	0,06	0,2
	2,0	20				6 : 1	0,12	0,3				6 : 1	0,12	0,3	6 : 1	0,12	0,3
	1,0	40				3 : 1	0,12	0,3				3 : 1	0,12	0,3			
	1,0	80							1,5 : 1	0,2	0,4						
	1,0	120	1 : 1	0,3	0,6				1 : 1	0,3	0,6						
4	5,0	5				24 : 1	0,06	0,2				24 : 1	0,06	0,2	24 : 1	0,12	0,3
	5,0	10				12 : 1	0,12	0,3				12 : 1	0,12	0,3	12 : 1	0,12	0,3
	5,0	15				8 : 1	0,2	0,4				8 : 1	0,2	0,4	8 : 1	0,2	0,4
	5,0	30				4 : 1	0,4	0,8				4 : 1	0,4	0,4			
	2,5	60				2 : 1	0,4	0,8	2 : 1	0,4	0,8	2 : 1	0,4	0,4			
	2,5	120	1 : 1	0,7	1,4				1 : 1	0,7	1,4						
5	10,0	5				32 : 1	0,12	0,3				32 : 1	0,12	0,3	32 : 1	0,2	0,4
	10,0	10				16 : 1	0,3	0,6				16 : 1	0,3	0,6	16 : 1	0,3	0,6
	10,0	15				10 : 1	0,4	0,8				10 : 1	0,4	0,8	10 : 1	0,4	0,8
	10,0	30				5 : 1	0,7	1,4				5 : 1	0,7	1,4	5 : 1	0,7	1,4
	5,0	80				2 : 1	1,1	2	2 : 1	1,1	2	2 : 1	1,1	2			
	5,0	160	1 : 1	2,0	4				1 : 1	2,0	4						
6	20,0	5				40 : 1	0,3	0,6				40 : 1	0,3	0,6	40 : 1	0,3	0,6
	20,0	10				20 : 1	0,7	1,4				20 : 1	0,7	1,4	20 : 1	0,7	1,4
	20,0	15				13 : 1	1,1	2				13 : 1	1,1	2	13 : 1	1,1	1,4
	20,0	30				7 : 1	1,7	3,5				7 : 1	1,7	3,5			
	10,0	60				3 : 1	1,7	3,5				3 : 1	1,7	3,5			
	10,0	100				2 : 1	2,4	5	2 : 1	2,4	5	2 : 1	2,4	5			
	10,0	200	1 : 1	4,8	10				1 : 1	4,8	10						
7	40,0	5				48 : 1	1,1	2				48 : 1	1,1	2	48 : 1	1,1	2
	40,0	10				24 : 1	1,1	2				24 : 1	1,1	2	24 : 1	1,7	3,5
	40,0	15				16 : 1	1,7	3,5				16 : 1	1,7	3,5	16 : 1	2,0	4
	40,0	30				8 : 1	3,0	6				8 : 1	3,0	6	8 : 1	3,0	6
	20,0	60				4 : 1	3,0	6				4 : 1	3,0	6			
	15,0	120				2 : 1	4,8	9,5	2 : 1	4,8	9,5	2 : 1	4,8	9,5			
	15,0	160							1,5 : 1	5,7	11						
8	80,0	5				64 : 1	1,7	3,5				64 : 1	1,7	3,5	64 : 1	1,7	3,5
	80,0	15				22 : 1	4,0	8				22 : 1	4,0	8	22 : 1	4,0	8
	80,0	25				13 : 1	5,7	11				13 : 1	5,7	11	13 : 1	5,7	11
	60,0	5				64 : 1	1,1	2				64 : 1	1,1	2	64 : 1	1,7	3,5
	60,0	15				22 : 1	2,4	5				22 : 1	2,4	5	22 : 1	3,0	6
	60,0	25				13 : 1	4,8	10				13 : 1	4,8	10	13 : 1	4,8	10
	40,0	60				5 : 1	5,7	11				5 : 1	5,7	11			

Not self-locking, brake "**L**" recommended.
If the actuator is provided to run into an end position automatically in case of a power failure it is necessary to have brake "**B**".

Higher thrusts, lower or higher speeds and longer strokes are available, depending on application.

Consult factory for details.

ADDITIONAL DIMENSIONS (mm)

Size		a	a4*	a10	b	b1	b2	b3	b4	b5	b6	b7	d	d1	d2	d3	d4*	d5	d6	d7	d8	d9	e	e1	e2	e3	e4	e5	e6	e7	e8*	e9	e10	e11	e12	u	u1
3		85	115	15	20	10	40	10	30	10	14	10	100	75	22	120	140	115	95	9	10	3	210	170	50	8	120	190	120	150	110	14	22	100	140	294	155
4		132	185	15	32	16	64	16	42	16	21	15	100	100	30	120	200	165	130	11	14	3	210	170	50	8	120	190	120	150	110	14	22	100	140	294	155
5		120	190	18	40	20	40	20	64	25	20	17	171	114	38	160	200	165	130	13	15	3	285	245	50	8	120	223	152	150	110	14	30	175	235	405	200
6		178	253	27	56	28	56	28	73	30	22	19	171	140	50	160	250	215	180	13	16	4	325	265	70	12	160	223	152	260	200	18	40	175	255	405	200
7		183		48	80	32	60	40	116	50	35	40	171	180	60	160	300	265	230	14	20	4	350	290	70	12	160	223	152	260	200	18	40	200	282	405	200
8		190		90					116	50	35	40	200	220	97	160	350	300	250	18	20	5	415	355	80	12	200	250	180	240	180	18	50	245	345	580	343
																														100						

*) Front flange mounting has limitations, depending on stroke and installation position. Consult factory.

Please consider that dim. e_8* for size 8 has 4 holes.

WEIGHTS (kg)

Type	Stroke (mm)													Mount brack (Pair)	Brake	Accessory housings					
	100	200	300	400	500	600	800	1000	1200	1400	1600	1800	2000			A	B	C	D	E	F
Y3	5	5,5	6	6,5	7	7,5	8,5	9,5						1,2					2	5	0,7
A3	13	13,5	14	14,5	15	15,5	16,5	17,5						1,2	2	2	2,5	3,5	2	5	0,7
M3	24	24,5	25	25,5	26	26,5	27,5	28,5						1,2	2	2	2,5	3,5	2	5	0,7
C3	15	15,5	16	16,5	17	17,5	18,5	19,5						1,2	2	2	2,5	3,5			
N3	26	26,5	27	27,5	28	28,5	29,5	30,5						1,2	2	2	2,5	3,5			
T3	19	19,5	20	20,5	21	21,5	22,5	23,5						1,2	2	2	2,5	3,5	2	5	0,7
Y4	6	7	8	9	10	11	13	15						1,2					2	5	0,7
A4	14	15	16	17	18	19	21	23						1,2	2	2	2,5	3,5	2	5	0,7
M4	25	26	27	28	29	30	32	34						1,2	2	2	2,5	3,5	2	5	0,7
C4	16	17	18	19	20	21	23	25						1,2	2	2	2,5	3,5			
N4	27	28	29	30	31	32	34	36						1,2	2	2	2,5	3,5			
T4	20	21	22	23	24	25	27	29						1,2	2	2	2,5	3,5	2	5	0,7
Y5	9	12,5	16	19,5	23	26,5	33,5	40,5						2,5					2	5	0,7
A5	29	32,5	36	39,5	43	46,5	53,5	60,5						2,5	5	2	2,5	3,5	2	5	0,7
M5	28	31,5	35	38,5	42	45,5	52,5	59,5						2,5	2	2	2,5	3,5	2	5	0,7
C5	31	34,5	38	41,5	45	48,5	55,5	62,5						2,5	2	2	2,5	3,5			
N5	30	33,5	37	40,5	44	47,5	54,5	61,5						2,5	5	2	2,5	3,5			
T5	23	26,5	30	33,5	37	40,5	47,5	54,5						2,5	2	2	2,5	3,5	2	5	0,7
Y6		33		41,5		50	58,5	67	75,5	84	92,5	101	109,5	10					2	5	0,7
A6		53		61,5		70	78,5	87	95,5	104	112,5	121	129,5	10	5	2	2,5	3,5	2	5	0,7
M6		64		72,5		81	89,5	98	106,5	115	123,5	132	140,5	10	5	2	2,5	3,5	2	5	0,7
C6		56		64,5		73	81,5	90	98,5	107	115,5	124	132,5	10	5	2	2,5	3,5			
N6		67		75,5		84	92,5	101	109,5	118	126,5	135	143,5	10	5	2	2,5	3,5			
T6		63		71,5		80	88,5	97	105,5	114	122,5	131	139,5	10	5	2	2,5	3,5	2	5	0,7
Y7		69		79		89	99	109	119	129	139	149	159	10					2	5	0,7
A7		89		99		109	119	129	139	149	159	169	179	10	6	2	2,5	3,5	2	5	0,7
M7		108		118		128	138	148	158	168	178	188	198	10	5	2	2,5	3,5	2	5	0,7
C7		92		102		112	122	132	142	152	162	172	182	10	6	2	2,5	3,5			
N7		111		121		131	141	151	161	171	181	191	201	10	5	2	2,5	3,5			
T7		107		117		127	137	147	157	167	177	187	197	10	5	2	2,5	3,5	2	5	0,7
Y8		127		141		155	169	183	197	211	225	239	253	15					2	5	0,7
A8																					
M8		173		187		201	215	229	243	257	271	285	299	15	5	2	2,5	3,5	2	5	0,7
C8																					
N8		184		198		212	226	240	254	268	282	296	310	15	5	2	2,5	3,5			
T8		178		192		206	220	234	248	262	276	290	304	15	5	2	2,5	3,5	2	5	0,7

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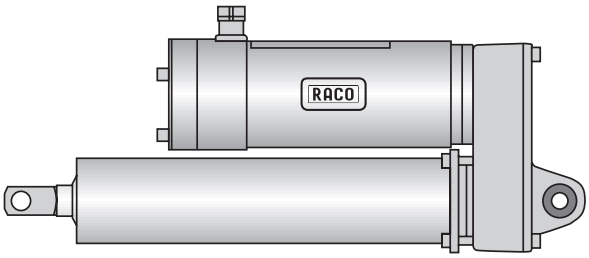
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

RACO SCHWELM

Typ ·Type ·Taille ·Tipo : T6C2



Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Antrieb: **Standard:** Drehstrom, Spannung nach Motordatenblatt, RACO-Motor siehe Seite 3.5.221
Vorzugsreihe: Drehstrom, 3 x 400 V, 50 Hz,

Motorisation: **Standard:** Triphasé, tension suivant feuillet technique moteur, moteur RACO, page 3.5.221
Série Privilégiée: Triphasé 400 V, 50 Hz,

Drive: **Standard:** Threephase, voltage acc. motor data sheet, RACO motor, page 3.5.221
Preferential Type: Threephase 400 V, 50 Hz,

Motor: **Standard:** Trifásico, tensión según pagina de datos de motores, motor RACO, pagina 3.5.221
Tipo Preferente: Trifásico 400 V, 50 Hz,

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
0,5	40	100	0,10	0,3	5,5	T6C2 - 01 01	
		200	0,10	0,3	6,0	T6C2 - 01 02	
		300	0,10	0,3	6,5	T6C2 - 01 03	
		400	0,10	0,3	7,0	T6C2 - 01 04	
	80	100	0,20	0,5	5,5	T6C2 - 01 05	
		200	0,20	0,5	6,0	T6C2 - 01 06	
		300	0,20	0,5	6,5	T6C2 - 01 07	
		400	0,20	0,5	7,0	T6C2 - 01 08	
1,0	20	100	0,10	0,3	5,5	T6C2 - 01 09	
		200	0,10	0,3	6,0	T6C2 - 01 10	
		300	0,10	0,3	6,5	T6C2 - 01 11	
		400	0,10	0,3	7,0	T6C2 - 01 12	
	40	100	0,25	0,6	5,5	T6C2 - 01 13	
		200	0,25	0,6	6,0	T6C2 - 01 14	T6C2 - 00 14
		300	0,25	0,6	6,5	T6C2 - 01 15	
		400	0,25	0,6	7,0	T6C2 - 01 16	T6C2 - 00 16
	80	100	0,50	0,9	5,5	T6C2 - 01 17	
		200	0,50	0,9	6,0	T6C2 - 01 18	
		300	0,50	0,9	6,5	T6C2 - 01 19	
		400	0,50	0,9	7,0	T6C2 - 01 20	
2,0	20	100	0,25	0,6	5,5	T6C2 - 01 21	
		200	0,25	0,6	6,0	T6C2 - 01 22	T6C2 - 00 22
		300	0,25	0,6	6,5	T6C2 - 01 23	
		400	0,25	0,6	7,0	T6C2 - 01 24	T6C2 - 00 24
	40	100	0,50	0,9	5,5	T6C2 - 01 25	
		200	0,50	0,9	6,0	T6C2 - 01 26	
		300	0,50	0,9	6,5	T6C2 - 01 27	
		400	0,50	0,9	7,0	T6C2 - 01 28	

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.222 = Gerätezusätze
Seite 3.5.225 = Näherungsschalter
page 3.5.222 = accessories
page 3.5.225 = prox. switches
page 3.5.222 = accessoires
page 3.5.225 = détecteur de proximité
pagina 3.5.222 = accessorios
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

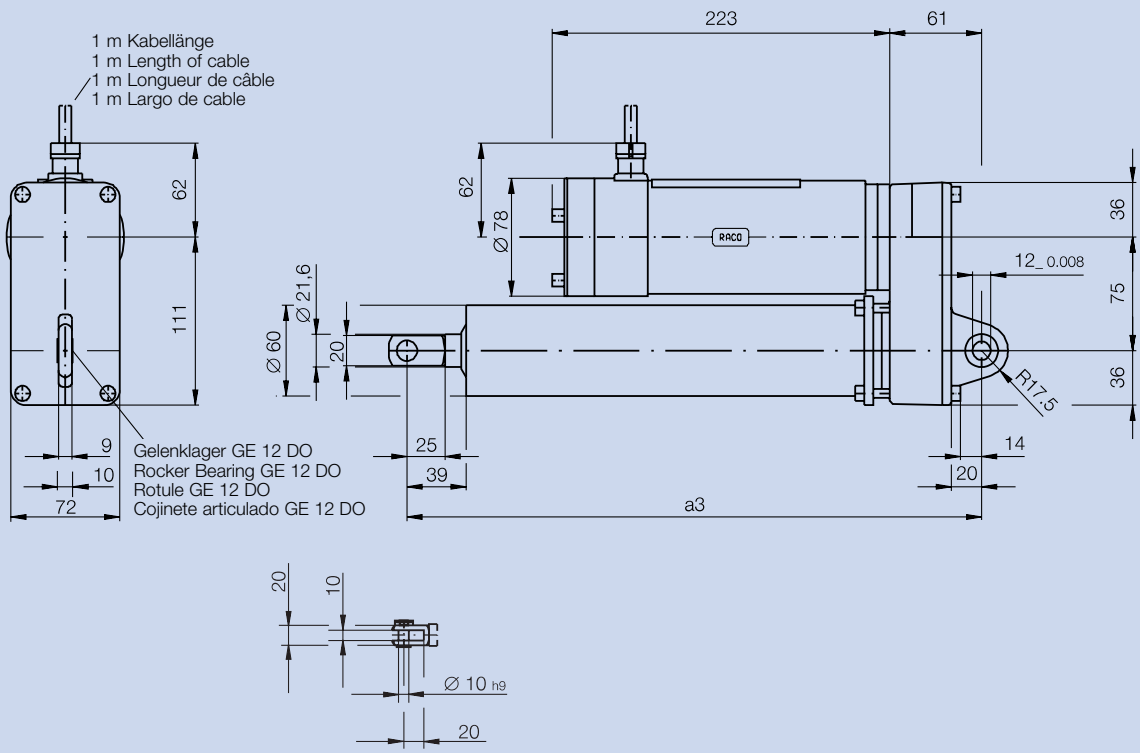
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6C2

Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	280	380	480	580

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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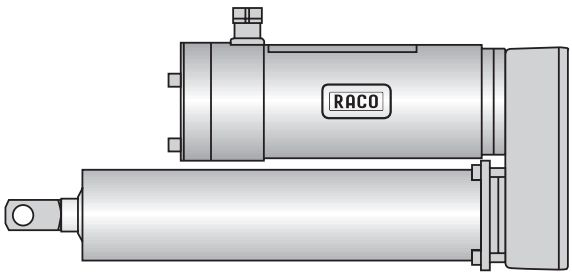
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6C2



Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Antrieb: **Standard:** Drehstrom, Spannung nach Motordatenblatt, RACO-Motor siehe Seite 3.5.221
Vorzugsreihe: Drehstrom, 3 x 400 V, 50 Hz,

Drive: **Standard:** Threephase, voltage acc. motor data sheet, RACO motor, page 3.5.221
Preferential Type: Threephase 400 V, 50 Hz,

Motorisation: **Standard:** Triphasé, tension suivant feuillet technique moteur, moteur RACO, page 3.5.221
Série Privilégiée: Triphasé 400 V, 50 Hz,

Motor: **Standard:** Trifásico, tensión según pagina de datos de motores, motor RACO, pagina 3.5.221
Tipo Preferente: Trifásico 400 V, 50 Hz,

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
0,5	40	100	0,10	0,3	5,5	T6C2 - 01 51	
		200	0,10	0,3	6,0	T6C2 - 01 52	
		300	0,10	0,3	6,5	T6C2 - 01 53	
		400	0,10	0,3	7,0	T6C2 - 01 54	
	80	100	0,20	0,5	5,5	T6C2 - 01 55	
		200	0,20	0,5	6,0	T6C2 - 01 56	
		300	0,20	0,5	6,5	T6C2 - 01 57	
		400	0,20	0,5	7,0	T6C2 - 01 58	
1,0	20	100	0,10	0,3	5,5	T6C2 - 01 59	
		200	0,10	0,3	6,0	T6C2 - 01 60	
		300	0,10	0,3	6,5	T6C2 - 01 61	
		400	0,10	0,3	7,0	T6C2 - 01 62	
	40	100	0,25	0,6	5,5	T6C2 - 01 63	
		200	0,25	0,6	6,0	T6C2 - 01 64	T6C2 - 00 64
		300	0,25	0,6	6,5	T6C2 - 01 65	
		400	0,25	0,6	7,0	T6C2 - 01 66	T6C2 - 00 66
	80	100	0,50	0,9	5,5	T6C2 - 01 67	
		200	0,50	0,9	6,0	T6C2 - 01 68	
		300	0,50	0,9	6,5	T6C2 - 01 69	
		400	0,50	0,9	7,0	T6C2 - 01 70	
2,0	20	100	0,25	0,6	5,5	T6C2 - 01 71	
		200	0,25	0,6	6,0	T6C2 - 01 72	T6C2 - 00 72
		300	0,25	0,6	6,5	T6C2 - 01 73	
		400	0,25	0,6	7,0	T6C2 - 01 74	T6C2 - 00 74
	40	100	0,50	0,9	5,5	T6C2 - 01 75	
		200	0,50	0,9	6,0	T6C2 - 01 76	
		300	0,50	0,9	6,5	T6C2 - 01 77	
		400	0,50	0,9	7,0	T6C2 - 01 78	

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.222 = Gerätezusätze
Seite 3.5.225 = Näherungsschalter
page 3.5.222 = accessories
page 3.5.225 = prox. switches
page 3.5.222 = accessoires
page 3.5.225 = détecteur de proximité
pagina 3.5.222 = accessorios
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

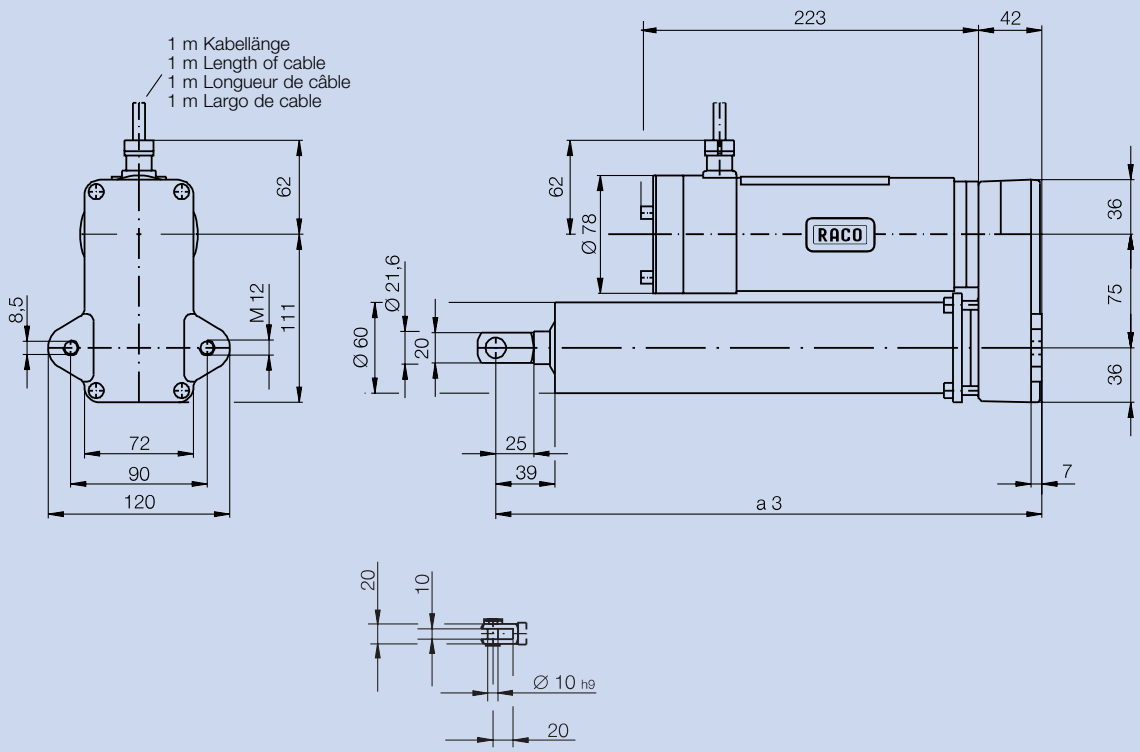
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6C2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	261	361	461	561

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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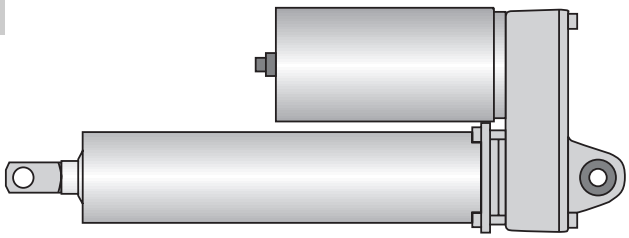
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6G2



Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Antrieb: **Standard:** Gleichstrommotor 12/24 V
RACO-Motor siehe Seite 3.5.223
Vorzugsreihe: Gleichstrommotor 24 V

Drive: **Standard:** DC motor 12/24 V
RACO motor, page 3.5.223
Preferential Type: DC motor 24 V

Motorisation: **Standard:** Moteur à courant continu 12/24 V
moteur RACO, page 3.5.223
Série Privilégiée: Moteur à courant continu 24 V

Motor: **Standard:** Motor de corriente continua 12/24 V
motor RACO, pagina 3.5.223
Tipo Preferente: Motor de corriente continua 24 V

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
0,8 (12 VDC)	40	100	20	3,5	T6G2 - 01 01	
		200	20	4,0	T6G2 - 01 02	
		300	20	4,5	T6G2 - 01 03	
		400	20	5,0	T6G2 - 01 04	
1,0 (24 VDC)	40	100	10	3,5	T6G2 - 01 05	
		200	10	4,0	T6G2 - 01 06	T6G2 - 00 06
		300	10	4,5	T6G2 - 01 07	
		400	10	5,0	T6G2 - 01 08	T6G2 - 00 08
1,5 (12 VDC)	20	100	20	3,5	T6G2 - 01 09	
		200	20	4,0	T6G2 - 01 10	
		300	20	4,5	T6G2 - 01 11	
		400	20	5,0	T6G2 - 01 12	
2,0 (24 VDC)	20	100	10	3,5	T6G2 - 01 13	
		200	10	4,0	T6G2 - 01 14	T6G2 - 00 14
		300	10	4,5	T6G2 - 01 15	
		400	10	5,0	T6G2 - 01 16	T6G2 - 00 16

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

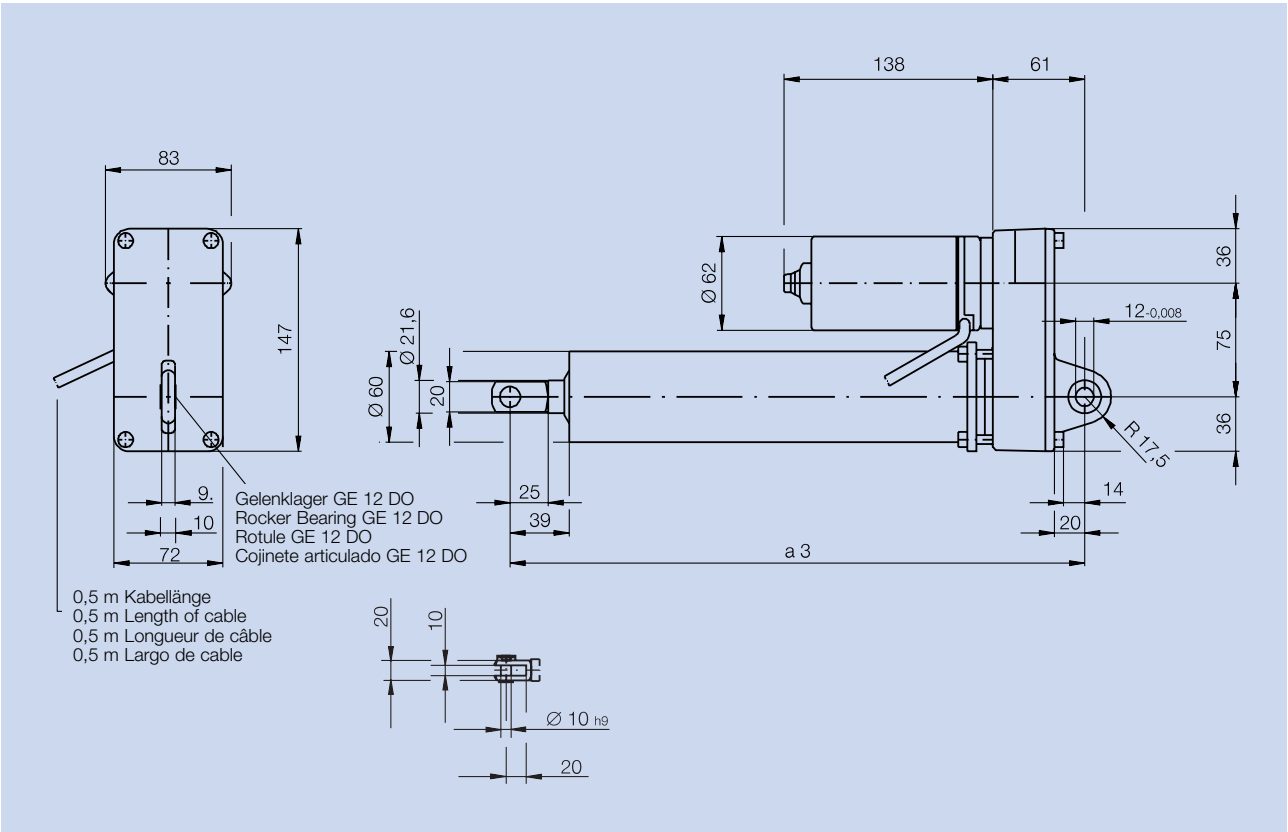
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6G2

Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	280	380	480	580

Technische Änderungen vorbehalten.
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Reservadas modificaciones técnicas.

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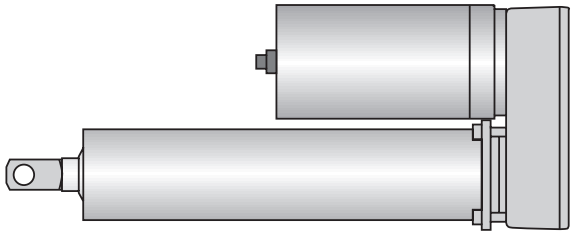
Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6G2



Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Antrieb: **Standard:** Gleichstrommotor 12/24 V
RACO-Motor siehe Seite 3.5.223
Vorzugsreihe: Gleichstrommotor 24 V

Drive: **Standard:** DC motor 12/24 V
RACO motor, page 3.5.223
Preferential Type: DC motor 24 V

Motorisation: **Standard:** Moteur à courant continu 12/24 V
moteur RACO, page 3.5.223
Série Privilégiée: Moteur à courant continu 24 V

Motor: **Standard:** Motor de corriente continua 12/24 V
motor RACO, pagina 3.5.223
Tipo Preferente: Motor de corriente continua 24 V

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
0,8 (12 VDC)	40	100	20	3,5	T6G2 - 01 51	
		200	20	4,0	T6G2 - 01 52	
		300	20	4,5	T6G2 - 01 53	
		400	20	5,0	T6G2 - 01 54	
1,0 (24 VDC)	40	100	10	3,5	T6G2 - 01 55	
		200	10	4,0	T6G2 - 01 56	T6G2 - 00 56
		300	10	4,5	T6G2 - 01 57	
		400	10	5,0	T6G2 - 01 58	T6G2 - 00 58
1,5 (12 VDC)	20	100	20	3,5	T6G2 - 01 59	
		200	20	4,0	T6G2 - 01 60	
		300	20	4,5	T6G2 - 01 61	
		400	20	5,0	T6G2 - 01 62	
2,0 (24 VDC)	20	100	10	3,5	T6G2 - 01 63	
		200	10	4,0	T6G2 - 01 64	T6G2 - 00 64
		300	10	4,5	T6G2 - 01 65	
		400	10	5,0	T6G2 - 01 66	T6G2 - 00 66

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.225 = Näherungsschalter
page 3.5.225 = prox. switches
page 3.5.225 = détecteur de proximité
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

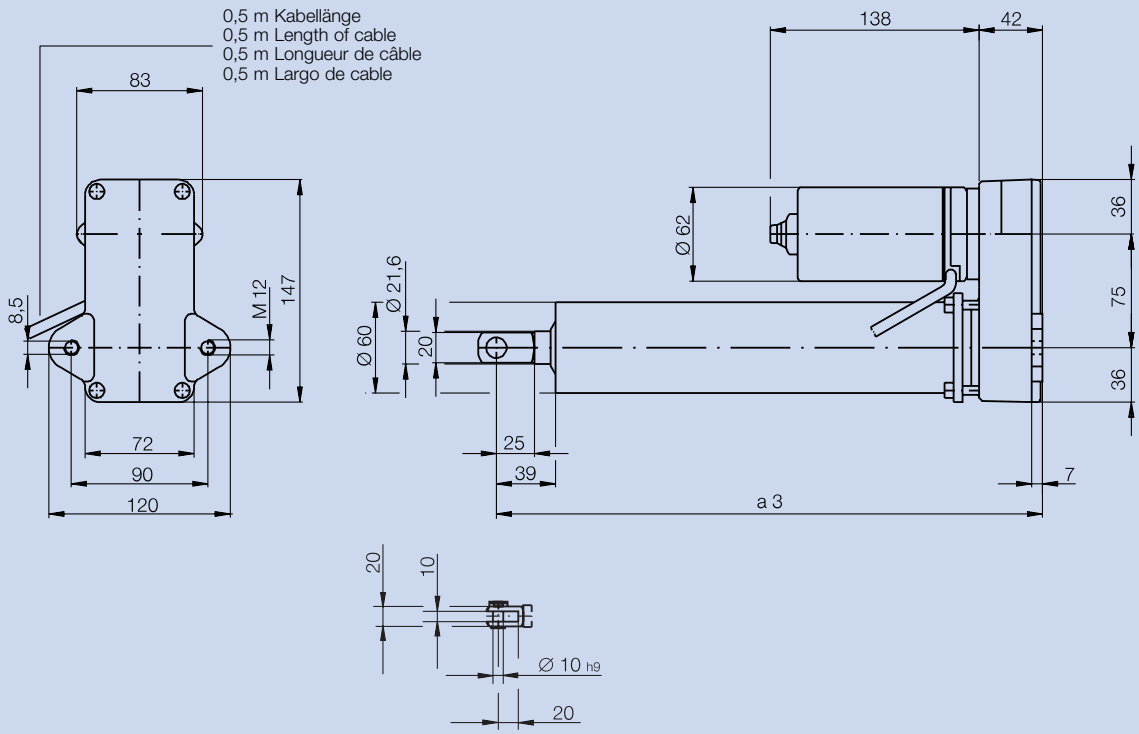
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6G2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	261	361	461	561

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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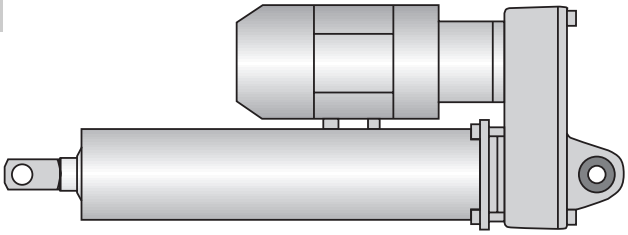
T6C2 - P3 - 04/99 (125-826-5) © RACO SCHWELM

Typ ·Type ·Taille ·Tipo : T6L2



Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Antrieb: **Standard:** Drehstrom 3 x 230/400 V, 50 Hz

Drive: **Standard:** Threephase 230/400 V, 50 Hz

Motorisation: **Standard:** Triphasé 230/400 V, 50 Hz

Motor: **Standard:** Trifásico 230/400 V, 50 Hz

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard
kN	**mm / s**	**mm**	**W**	**A**	**kg**	**Best.-Nr. / Order No. / Ref. Commande / No. de Pedido**
1,0	5	100	22	0,12	4,0	T6L2 - 01 01
		200	22	0,12	4,5	T6L2 - 01 02
		300	22	0,12	5,0	T6L2 - 01 03
		400	22	0,12	5,5	T6L2 - 01 04
	10	100	43	0,18	4,0	T6L2 - 01 05
		200	43	0,18	4,5	T6L2 - 01 06
		300	43	0,18	5,0	T6L2 - 01 07
		400	43	0,18	5,5	T6L2 - 01 08
	15	100	67	0,26	4,0	T6L2 - 01 09
		200	67	0,26	4,5	T6L2 - 01 10
		300	67	0,26	5,0	T6L2 - 01 11
		400	67	0,26	5,5	T6L2 - 01 12
2,0	2	100	22	0,12	4,0	T6L2 - 01 13
		200	22	0,12	4,5	T6L2 - 01 14
		300	22	0,12	5,0	T6L2 - 01 15
		400	22	0,12	5,5	T6L2 - 01 16
	5	100	43	0,18	4,0	T6L2 - 01 17
		200	43	0,18	4,5	T6L2 - 01 18
		300	43	0,18	5,0	T6L2 - 01 19
		400	43	0,18	5,5	T6L2 - 01 20
	10	100	67	0,26	4,0	T6L2 - 01 21
		200	67	0,26	4,5	T6L2 - 01 22
		300	67	0,26	5,0	T6L2 - 01 23
		400	67	0,26	5,5	T6L2 - 01 24
	15	100	86	0,31	4,5	T6L2 - 01 25
		200	86	0,31	5,0	T6L2 - 01 26
		300	86	0,31	5,5	T6L2 - 01 27
		400	86	0,31	6,0	T6L2 - 01 28

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.225 = Näherungsschalter
page 3.5.225 = prox. switches
page 3.5.225 = détecteur de proximité
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

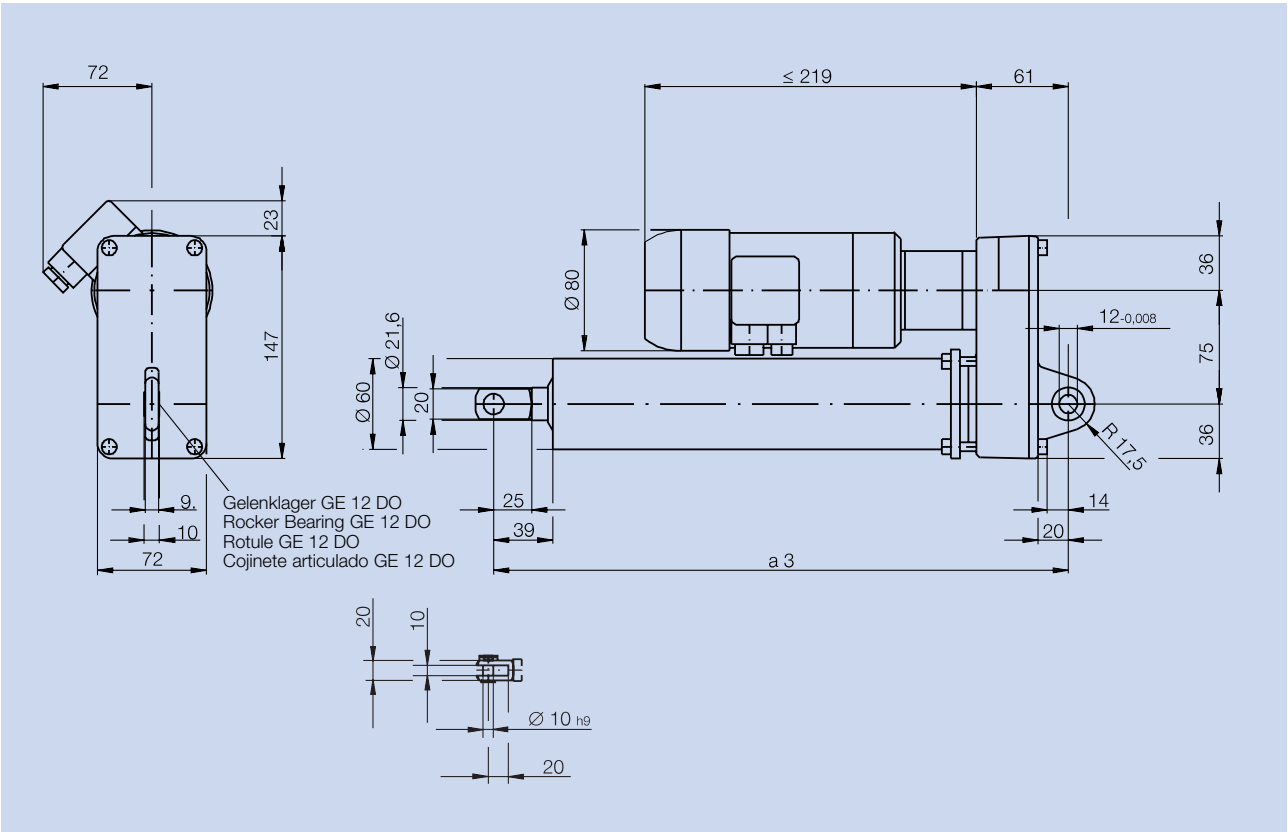
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2

Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	280	380	480	580

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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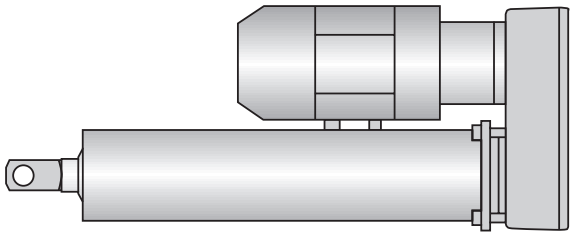
RACO SCHWELM

Typ ·Type ·Taille ·Tipo : T6L2



Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Antrieb: **Standard:** Drehstrom 3 x 230/400 V, 50 Hz

Drive: **Standard:** Threephase 230/400 V, 50 Hz

Motorisation: **Standard:** Triphasé 230/400 V, 50 Hz

Motor: **Standard:** Trifásico 230/400 V, 50 Hz

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard
kN	mm / s	mm	W	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido
1,0	5	100	22	0,12	4,0	T6L2 - 01 51
		200	22	0,12	4,5	T6L2 - 01 52
		300	22	0,12	5,0	T6L2 - 01 53
		400	22	0,12	5,5	T6L2 - 01 54
	10	100	43	0,18	4,0	T6L2 - 01 55
		200	43	0,18	4,5	T6L2 - 01 56
		300	43	0,18	5,0	T6L2 - 01 57
		400	43	0,18	5,5	T6L2 - 01 58
	15	100	67	0,26	4,0	T6L2 - 01 59
		200	67	0,26	4,5	T6L2 - 01 60
		300	67	0,26	5,0	T6L2 - 01 61
		400	67	0,26	5,5	T6L2 - 01 62
2,0	2	100	22	0,12	4,0	T6L2 - 01 63
		200	22	0,12	4,5	T6L2 - 01 64
		300	22	0,12	5,0	T6L2 - 01 65
		400	22	0,12	5,5	T6L2 - 01 66
	5	100	43	0,18	4,0	T6L2 - 01 67
		200	43	0,18	4,5	T6L2 - 01 68
		300	43	0,18	5,0	T6L2 - 01 69
		400	43	0,18	5,5	T6L2 - 01 70
	10	100	67	0,26	4,0	T6L2 - 01 71
		200	67	0,26	4,5	T6L2 - 01 72
		300	67	0,26	5,0	T6L2 - 01 73
		400	67	0,26	5,5	T6L2 - 01 74
	15	100	86	0,31	4,5	T6L2 - 01 75
		200	86	0,31	5,0	T6L2 - 01 76
		300	86	0,31	5,5	T6L2 - 01 77
		400	86	0,31	6,0	T6L2 - 01 78

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.225 = Näherungsschalter
page 3.5.225 = prox. switches
page 3.5.225 = détecteur de proximité
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

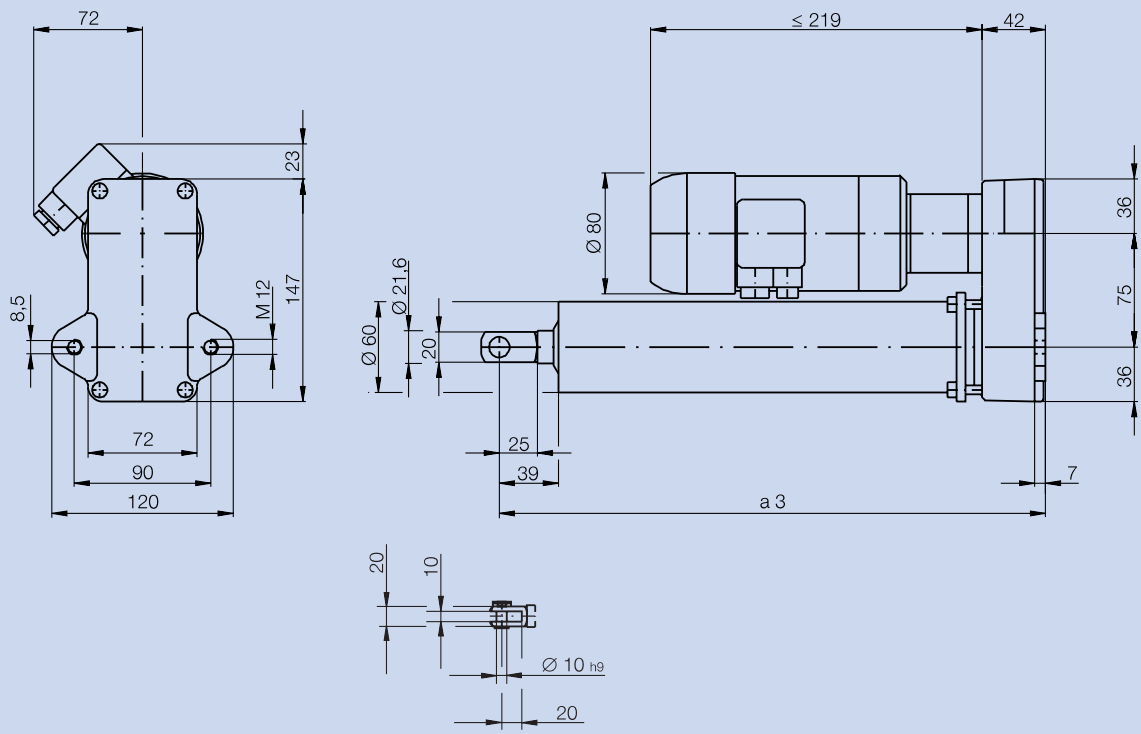
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	261	361	461	561

Technische Änderungen vorbehalten.
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Reservadas modificaciones técnicas.

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Internet: http://www.raco.de

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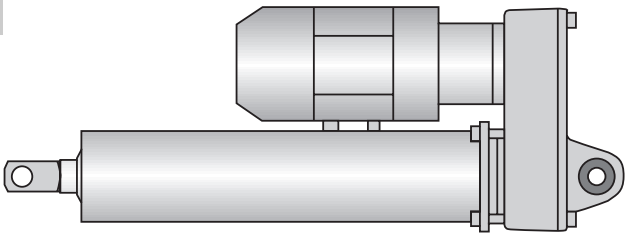
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2



Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Antrieb: **Standard:** Wechselstrom 1 x 230 V, 50 Hz

Motorisation: **Standard:** Monophasée 230 V, 50 Hz

Drive: **Standard:** AC motor 230 V, 50 Hz

Motor: **Standard:** Corriente alterna 230 V, 50 Hz

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard
kN	mm / s	mm	W	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido
1,0	5	100	29	0,25	4,0	T6L2 - 02 01
		200	29	0,25	4,5	T6L2 - 02 02
		300	29	0,25	5,0	T6L2 - 02 03
		400	29	0,25	5,5	T6L2 - 02 04
	10	100	38	0,39	4,0	T6L2 - 02 05
		200	38	0,39	4,5	T6L2 - 02 06
		300	38	0,39	5,0	T6L2 - 02 07
		400	38	0,39	5,5	T6L2 - 02 08
	15	100	60	0,54	4,0	T6L2 - 02 09
		200	60	0,54	4,5	T6L2 - 02 10
		300	60	0,54	5,0	T6L2 - 02 11
		400	60	0,54	5,5	T6L2 - 02 12
2,0	2	100	29	0,25	4,0	T6L2 - 02 13
		200	29	0,25	4,5	T6L2 - 02 14
		300	29	0,25	5,0	T6L2 - 02 15
		400	29	0,25	5,5	T6L2 - 02 16
	5	100	38	0,39	4,0	T6L2 - 02 17
		200	38	0,39	4,5	T6L2 - 02 18
		300	38	0,39	5,0	T6L2 - 02 19
		400	38	0,39	5,5	T6L2 - 02 20

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

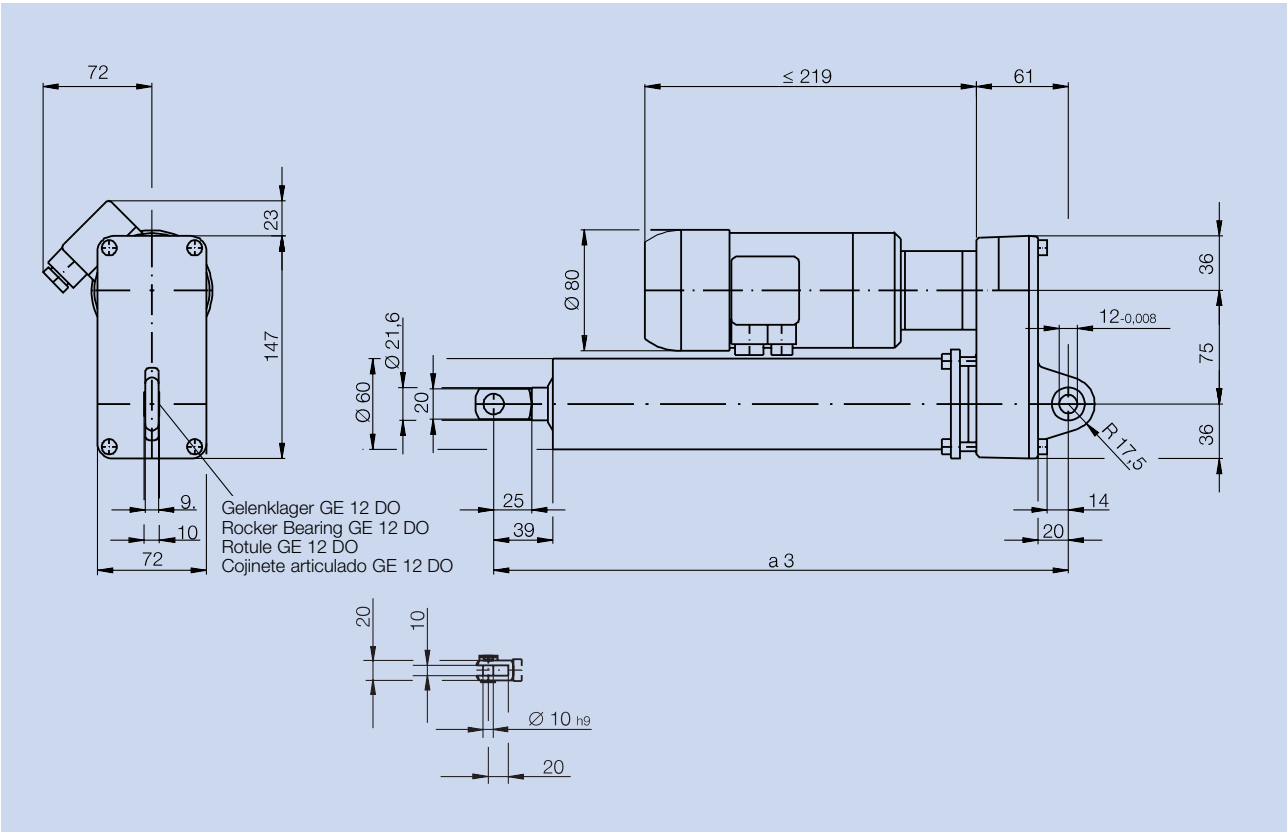
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2

Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	280	380	480	580

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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Internet: http://www.raco.de

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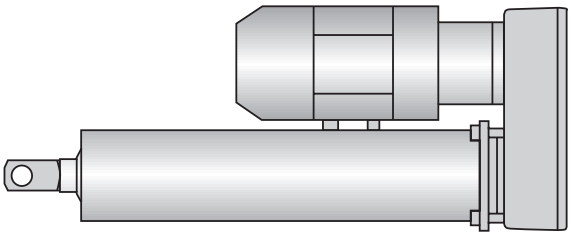
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida



Antrieb: **Standard:** Wechselstrom 1 x 230 V, 50 Hz

Drive: **Standard:** AC motor 230 V, 50 Hz

Motorisation: **Standard:** Monophasée 230 V, 50 Hz

Motor: **Standard:** Corriente alterna 230 V, 50 Hz

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard
kN	mm / s	mm	W	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido
1,0	5	100	29	0,25	4,0	T6L2 - 02 51
		200	29	0,25	4,5	T6L2 - 02 52
		300	29	0,25	5,0	T6L2 - 02 53
		400	29	0,25	5,5	T6L2 - 02 54
	10	100	38	0,39	4,0	T6L2 - 02 55
		200	38	0,39	4,5	T6L2 - 02 56
		300	38	0,39	5,0	T6L2 - 02 57
		400	38	0,39	5,5	T6L2 - 02 58
	15	100	60	0,54	4,0	T6L2 - 02 59
		200	60	0,54	4,5	T6L2 - 02 60
		300	60	0,54	5,0	T6L2 - 02 61
		400	60	0,54	5,5	T6L2 - 02 62
2,0	2	100	29	0,25	4,0	T6L2 - 02 63
		200	29	0,25	4,5	T6L2 - 02 64
		300	29	0,25	5,0	T6L2 - 02 65
		400	29	0,25	5,5	T6L2 - 02 66
	5	100	38	0,39	4,0	T6L2 - 02 67
		200	38	0,39	4,5	T6L2 - 02 68
		300	38	0,39	5,0	T6L2 - 02 69
		400	38	0,39	5,5	T6L2 - 02 70

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.225 = Näherungsschalter
page 3.5.225 = prox. switches
page 3.5.225 = détecteur de proximité
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

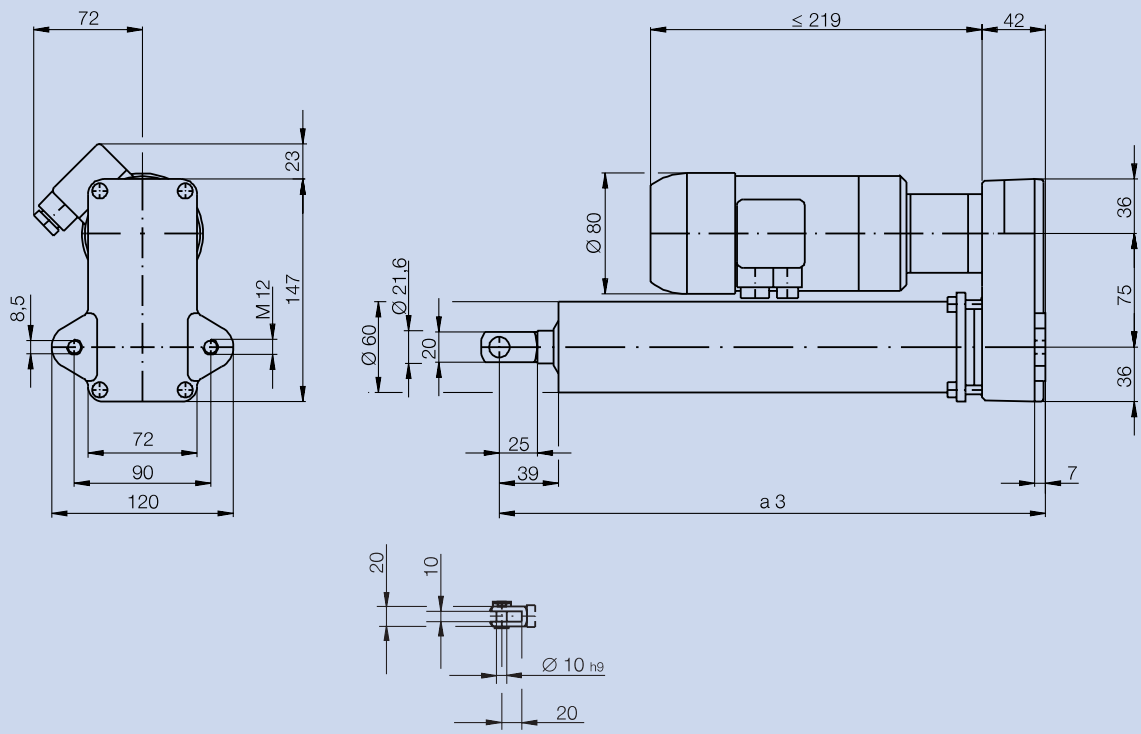
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6L2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	261	361	461	561

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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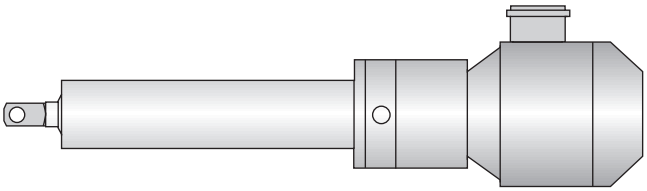
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6F2

Befestigungsart: Gabelkopf / Drehzapfen
Type of Mounting: Front clevis / Trunnions
Fixation: Chape d'attelage / Tourillons
Fijación: Horquilla / Ejes basculantes



Antrieb: **Standard:** Drehstrom, 3 x 230/400 V, 50 Hz, IEC Motor
Vorzugsreihe: Drehstrom, 3 x 230/400 V, 50 Hz, IEC Motor

Drive: **Standard:** Threephase 230/400 V, 50 Hz, IEC motor
Preferential Type: Threephase 230/400 V, 50 Hz, IEC motor

Motorisation: **Standard:** Triphasé 230/400 V, 50 Hz, moteur IEC
Série Privilégiée: Triphasé 230/400 V, 50 Hz, moteur IEC

Motor: **Standard:** Trifásico 230/400 V, 50 Hz, motor IEC
Tipo Preferente: Trifásico 230/400 V, 50 Hz, motor IEC

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
1,0	45	100	0,12	0,6	6,0	T6F2 - 01 01	
		200	0,12	0,6	6,5	T6F2 - 01 02	
		300	0,12	0,6	7,0	T6F2 - 01 03	
		400	0,12	0,6	7,5	T6F2 - 01 04	
	90	100	0,25	0,9	6,0	T6F2 - 01 05	
		200	0,25	0,9	6,5	T6F2 - 01 06	
		300	0,25	0,9	7,0	T6F2 - 01 07	
		400	0,25	0,9	7,5	T6F2 - 01 08	
1,5	45	100	0,18	0,7	6,0	T6F2 - 01 09	
		200	0,18	0,7	6,5	T6F2 - 01 10	T6F2 - 00 10
		300	0,18	0,7	7,0	T6F2 - 01 11	
		400	0,18	0,7	7,5	T6F2 - 01 12	T6F2 - 00 12

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.225 = Näherungsschalter
page 3.5.225 = prox. switches
page 3.5.225 = détecteur de proximité
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

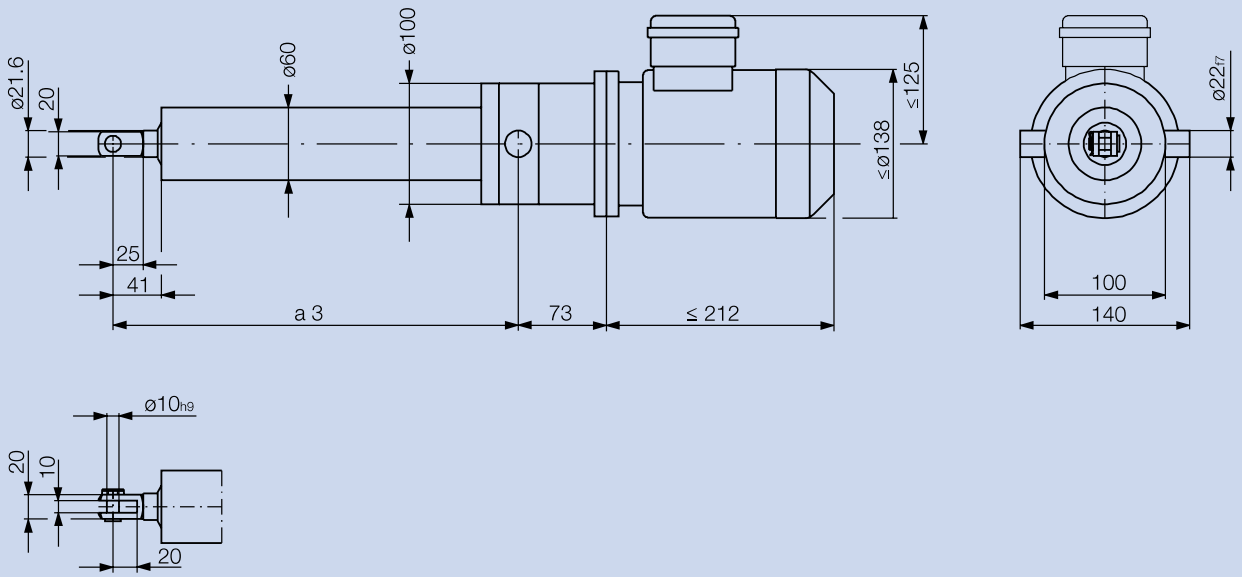
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6F2

Befestigungsart: Gabelkopf / Drehzapfen
Type of Mounting: Front clevis / Trunnions
Fixation: Chape d'attelage / Tourillons
Fijación: Horquilla / Ejes basculantes

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	238	338	438	538

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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Internet: http://www.raco.de

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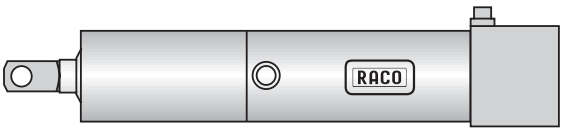
Elektrozylinder Baugröße 2
Electric Actuator Size 2
Vérin Electrique Taille 2
Cilindro Eléctrico Tamaño 2

Typ ·Type ·Taille ·Tipo : T1B2/T1A2

Befestigungsart: Gabelkopf / Drehzapfen
Type of Mounting: Front clevis / Trunnions
Fixation: Chape d'attelage / Tourillons
Fijación: Horquilla / Ejes basculantes



Antrieb: **Standard:** Drehstrom, 3 x 400 V, 50 Hz, RACO-Motor siehe Seite 3.5.221

Drive: **Standard:** Threephase 400 V, 50 Hz, RACO motor, page 3.5.221

Motorisation: **Standard:** Triphasé 400 V, 50 Hz, moteur RACO, page 3.5.221

Motor: **Standard:** Trifásico 400 V, 50 Hz, motor RACO, pagina 3.5.221

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido
0,5	40	100	0,10	0,3	5,0	T1B2 - 01 01
		200	0,10	0,3	5,5	T1B2 - 01 02
		300	0,10	0,3	6,0	T1B2 - 01 03
	80	100	0,20	0,5	5,0	T1B2 - 01 04
		200	0,20	0,5	5,5	T1B2 - 01 05
		300	0,20	0,5	6,0	T1B2 - 01 06
0,8	40	100	0,25	0,6	5,0	T1A2 - 01 01
		200	0,25	0,6	5,5	T1A2 - 01 02
		300	0,25	0,6	6,0	T1A2 - 01 03
	80	100	0,50	0,9	5,0	T1A2 - 01 04
		200	0,50	0,9	5,5	T1A2 - 01 05
		300	0,50	0,9	6,0	T1A2 - 01 06

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Seite 3.5.222 = Gerätezusätze
page 3.5.222 = accessories
page 3.5.222 = accessoires
pagina 3.5.222 = accessorios

Elektrozylinder Baugröße 2

Electric Actuator Size 2

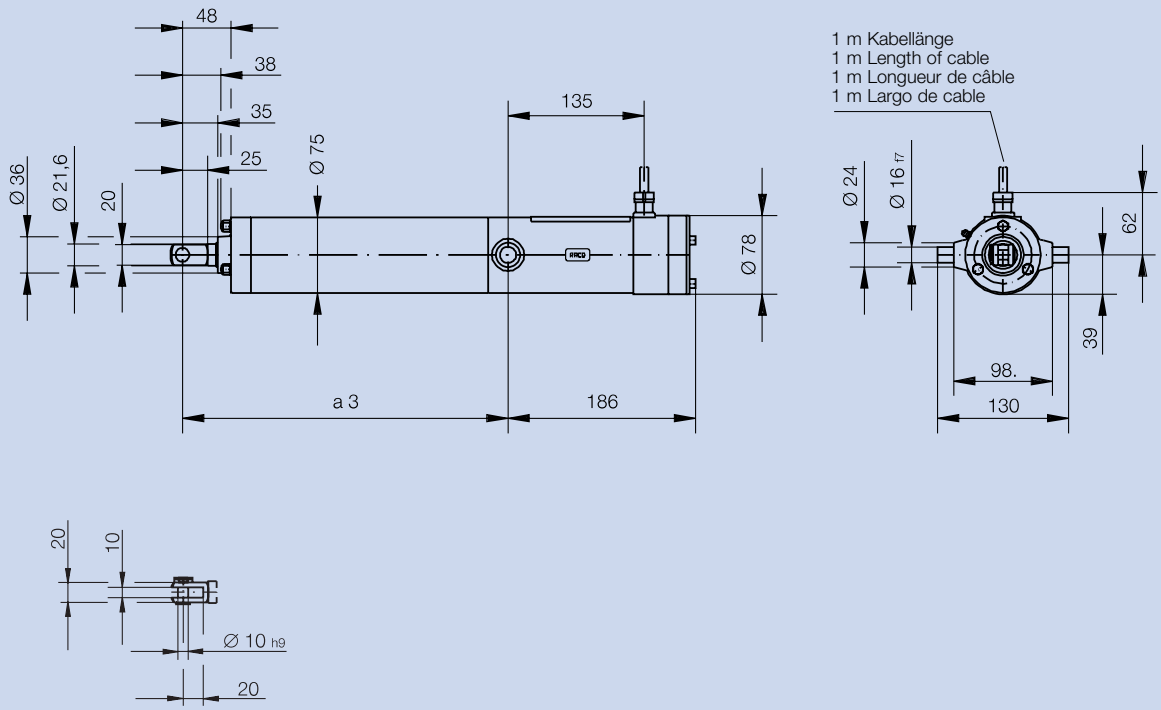
Vérin Electrique Taille 2

Cilindro Eléctrico Tamaño 2

Typ ·Type ·Taille ·Tipo : T1B2/T1A2

Befestigungsart: Gabelkopf / Drehzapfen
Type of Mounting: Front clevis / Trunnions
Fixation: Chape d'attelage / Tourillons
Fijación: Horquilla / Ejes basculantes

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	223	323	423

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

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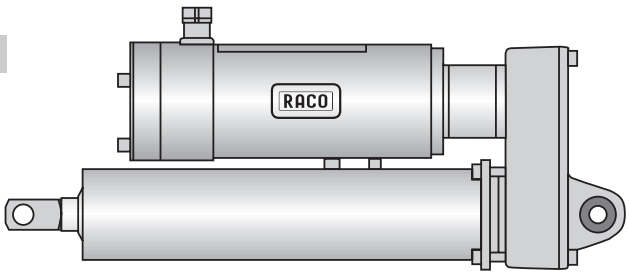
Internet: http://www.raco.de

T1B2/T1A2- P3 - 04/99 (125-832-0) © RACO SCHWELM

Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6N2



Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Antrieb: **Standard:** Drehstrom, Spannung nach Motordatenblatt, RACO-Motor siehe Seite 3.5.221
Vorzugsreihe: Drehstrom, 3 x 400 V, 50 Hz,

Drive: **Standard:** Threephase, voltage acc. Motor data sheet, RACO motor, page 3.5.221
Preferential Type: Threephase 400 V, 50 Hz,

Motorisation: **Standard:** Triphasé, tension suivant feuillet technique moteur, moteur RACO, page 3.5.221
Série Privilégiée: Triphasé 400 V, 50 Hz,

Motor: **Standard:** Trifásico, tensión según pagina de datos de motores, motor RACO, pagina 3.5.221
Tipo Preferente: Trifásico 400 V, 50 Hz,

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
1,0	10	100	0,10	0,3	6,0	T6N2 - 01 01	
		200	0,10	0,3	6,5	T6N2 - 01 02	
		300	0,10	0,3	7,0	T6N2 - 01 03	
		400	0,10	0,3	7,5	T6N2 - 01 04	
2,0	5	100	0,10	0,3	6,0	T6N2 - 01 05	
		200	0,10	0,3	6,5	T6N2 - 01 06	
		300	0,10	0,3	7,0	T6N2 - 01 07	
		400	0,10	0,3	7,5	T6N2 - 01 08	
	10	100	0,25	0,6	6,0	T6N2 - 01 09	
		200	0,25	0,6	6,5	T6N2 - 01 10	T6N2 - 00 10
		300	0,25	0,6	7,0	T6N2 - 01 11	
		400	0,25	0,6	7,5	T6N2 - 01 12	T6N2 - 00 12

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Einschaltdauer eingeschränkt.
Cyclic duration limited.
Service intermittent.
Servicio intermitente.

Seite 3.5.222 = Gerätezusätze
Seite 3.5.225 = Näherungsschalter
page 3.5.222 = accessories
page 3.5.225 = prox. switches
page 3.5.222 = accessoires
page 3.5.225 = détecteur de proximité
pagina 3.5.222 = accessorios
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

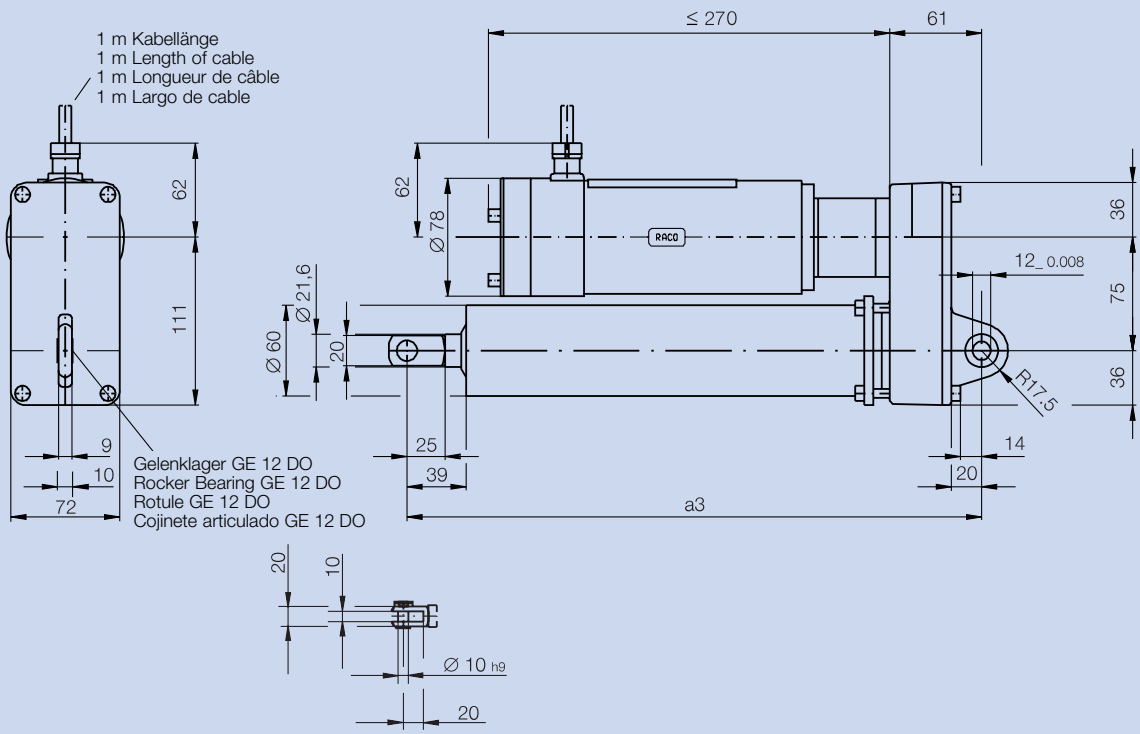
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6N2

Befestigungsart: Gabelkopf / Auge
Type of Mounting: Front clevis / Rear eye
Fixation: Chape d'attelage / Rotule
Fijación: Horquilla / Ojo atrás

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	280	380	480	580

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

RACO SCHWELM

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Internet: http://www.raco.de

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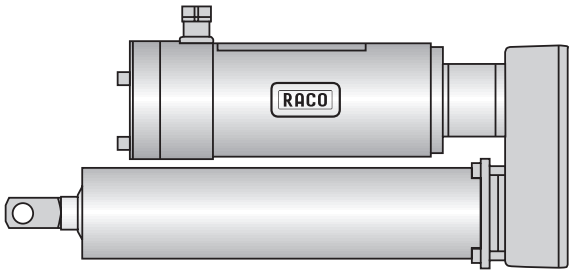
Elektrozylinder Baugröße 2 COMPACT
Electric Actuator Size 2 COMPACT
Vérin Electrique Taille 2 COMPACT
Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6N2



Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Antrieb: **Standard:** Drehstrom, Spannung nach Motordatenblatt, RACO-Motor siehe Seite 3.5.221
Vorzugsreihe: Drehstrom, 3 x 400 V, 50 Hz,

Drive: **Standard:** Threephase, voltage acc. Motor data sheet, RACO motor, page 3.5.221
Preferential Type: Threephase 400 V, 50 Hz,

Motorisation: **Standard:** Triphasé, tension suivant feuillet technique moteur, moteur RACO, page 3.5.221
Série Privilégiée: Triphasé 400 V, 50 Hz,

Motor: **Standard:** Trifásico, tensión según pagina de datos de motores, motor RACO, pagina 3.5.221
Tipo Preferente: Trifásico 400 V, 50 Hz,

Technische Daten · Technical Data · Données Techniques · Datos Técnicos

Kraft Thrust	Geschw. Speed	Hub Stroke	Leistung Power	I_N	Gewicht Weight	Standard Standard	Vorzugsreihe Preferential Type
Force Esfuerzo	Vitesse Velocidad	Course Carrera	Puissance Potencia	I_N	Poids Peso	Standard Standard	Série Privilégiée Tipo Preferente
kN	mm / s	mm	kW	A	kg	Best.-Nr. / Order No. / Ref. Commande / No. de Pedido	
1,0	10	100	0,10	0,3	6,0	T6N2 - 01 51	
		200	0,10	0,3	6,5	T6N2 - 01 52	
		300	0,10	0,3	7,0	T6N2 - 01 53	
		400	0,10	0,3	7,5	T6N2 - 01 54	
2,0	5	100	0,10	0,3	6,0	T6N2 - 01 55	
		200	0,10	0,3	6,5	T6N2 - 01 56	
		300	0,10	0,3	7,0	T6N2 - 01 57	
		400	0,10	0,3	7,5	T6N2 - 01 58	
	10	100	0,25	0,6	6,0	T6N2 - 01 59	
		200	0,25	0,6	6,5	T6N2 - 01 60	T6N2 - 00 60
		300	0,25	0,6	7,0	T6N2 - 01 61	
		400	0,25	0,6	7,5	T6N2 - 01 62	T6N2 - 00 62

Bei Nachlauf Hubreserven entsprechend Blatt 3.5.1 berücksichtigen.
Regarding coasting please consider info sheet 3.5.1.
Pour la distance d'arrêt de la tige après la mise hors tension du vérin, se référer page 3.5.1.
Tener en cuenta la velocidad de inercia con respecto a la carrera, según las instrucciones de servicio 3.5.1.

Einschaltdauer eingeschränkt.
Cyclic duration limited.
Service intermittent.
Servicio intermitente.

Seite 3.5.222 = Gerätezusätze
Seite 3.5.225 = Näherungsschalter
page 3.5.222 = accessories
page 3.5.225 = prox. switches
page 3.5.222 = accessoires
page 3.5.225 = détecteur de proximité
pagina 3.5.222 = accessorios
pagina 3.5.225 = detectores de proximidad

Elektrozylinder Baugröße 2 COMPACT

Electric Actuator Size 2 COMPACT

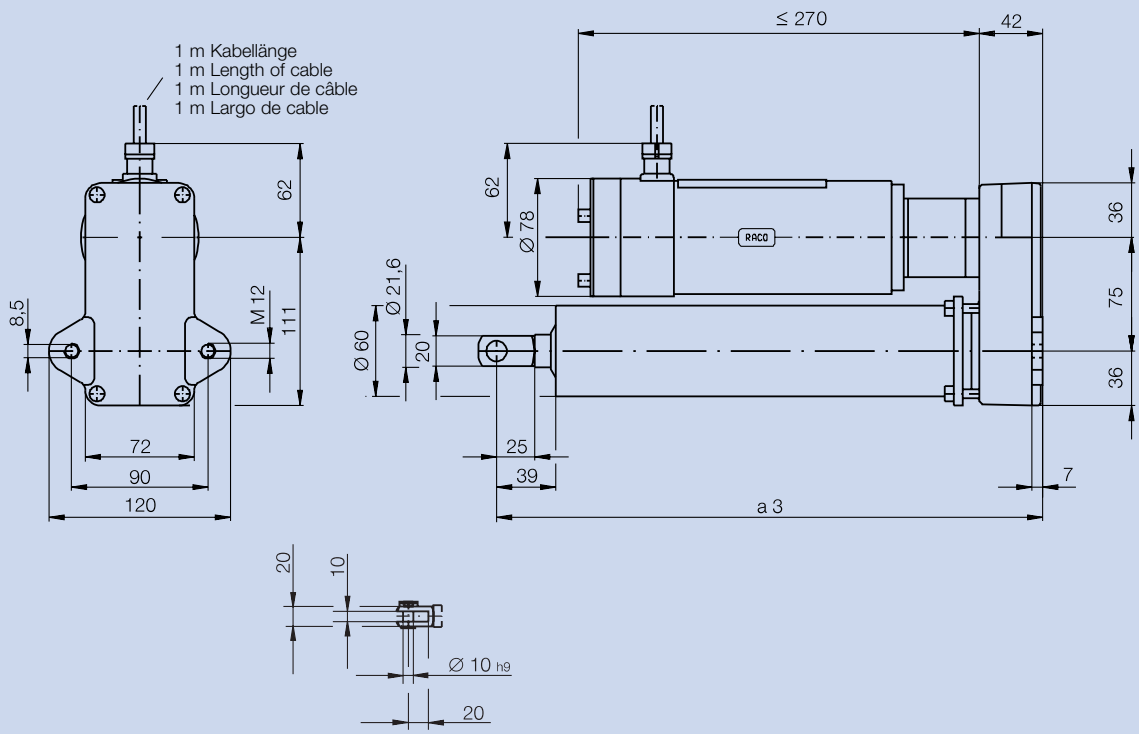
Vérin Electrique Taille 2 COMPACT

Cilindro Eléctrico Tamaño 2 COMPACT

Typ ·Type ·Taille ·Tipo : T6N2

Befestigungsart: Gabelkopf / Flansch
Type of Mounting: Front clevis / Flange
Fixation: Chape d'attelage / Bride
Fijación: Horquilla / Brida

Maßblatt · Dimension Sheet · Dimensions · Dimensiones



Hub Stroke	Course Carrera	mm	100	200	300	400
Maß a3 Dimension a3	Dimension a3 Dimensión a3	mm	261	361	461	561

Technische Änderungen vorbehalten.
Changes and technical improvements reserved.
Sous réserve de modifications techniques.
Reservadas modificaciones técnicas.

RACO SCHWELM

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e-Mail: RACO@raco.de
Internet: http://www.raco.de

T6N2 - P1 - 04/99 (131-022-4) © RACO SCHWELM

Copley Controls Corp.
Copley Motion Systems LLC

MODELS STA2504-2510
SERVOTUBE ACTUATOR

FEATURES

- **51~102 N (11~23 lb) continuous force**
- **312~780 N (70~175 lb) peak force**
- **27~309 mm stroke**
- **12 µm (0.47 mil) resolution**
- **Speeds up to 5.9 m/s**
- **Acceleration up to 586 m/s^2**
- **Built-in position feedback -- no encoder required**
- **Standard 1V pk-pk sin/cos position output**
- **Integral, long-life, quiet, dry-running bearing**
- **IP67 rating**
- **DIN standard mounting**
- **Accepts a range of industry standard mounting accessories**
- **Plug-and-play position control with Xenus indexer**

APPLICATIONS

- **Packaging**
- **Material Handling**
- **Automated Assembly**

THE OEM ADVANTAGE

- **Reliable and cost-effective**
- **Flexible position control**
- **High speed and acceleration**
- **Clean, quiet operation**
- **No maintenance or adjustment**

The ServoTube Actuator is an optimal solution for industrial position control. Faster than a ballscrew with the clean reliability of a linear forcer, Servotube is a cost-effective alternative to air cylinders in applications requiring greater flexibility and control.

The ServoTube Actuator incorporates an IP67 rated forcer and a sealed stainless steel thrust rod enclosing rare-earth magnets. Four models deliver a continuous force range of 51~102 N (11~23 lb) with peak forces up to 780 N (175 lb). Twelve stroke lengths are available from 27~309 mm

The patented magnetic design of ServoTube generates 12 micron (0.47 mil) repeatability and 250 micron (10 mil) accuracy from a non-contact, integral position sensor. No external encoder is required. Position output is industry standard 1V pk-pk sin/cos signals.

An internal dry bearing provides clean, quiet, maintenance-free performance. Life expectancy far exceeds typical ballscrew solutions.

The ServoTube Actuator is ideal for push/pull/lift material handling, packaging and automated assembly applications. Mounting is compatible with pneumatic actuators. ServoTube accepts a range of industry standard accessories for simple mechanical integration.

Flexible mid-stroke position control is simple with Xenus - a matched, self-tuning indexer complete with plug-and-play cabling. Simply select your ServoTube model number and the system comes up tuned and ready to run. Clear diagnostics make system commissioning easy. Fill in the blanks to define position, velocity and acceleration.

Xenus interfaces easily to PLCs and features CANopen network connectivity. Operation is offline 100~240 Vac.

ELECTRICAL SPECIFICATIONS

FORCER TYPE	2504		2506		2508		2510		units
	S (1)	P (1)	S (1)	P (1)	S (1)	P (1)	S (1)	P (1)	
Peak force @ 25°C ambient for 1 sec	312	156	468	234	624	312	780	390	N
Peak current @ 25°C ambient for 1 sec	20		20		20		20		A_{pk}
With 25x25x2.5cm heatsink plate									
Continuous stall force @ 25°C ambient (2)	51.2		69.5		86.4		102.4		N
Continuous stall current @ 25°C ambient	2.31	4.62	2.10	4.20	1.96	3.92	1.86	3.72	A_{rms}
	3.27	6.54	2.97	5.94	2.77	5.54	2.62	5.24	A_{pk}
Without heatsink plate									
Continuous stall force @ 25°C ambient (2)	42.5		59.5		75.1		90.0		N
Continuous stall current @ 25°C ambient	1.92	3.84	1.80	3.60	1.70	3.40	1.63	3.26	A_{rms}
	2.72	5.44	2.54	5.08	2.41	4.82	2.31	4.62	A_{pk}
Force constant (sine commutation)	22.1	11.0	33.1	16.5	44.1	22.0	55.2	27.6	N/A_{rms}
	15.6	7.8	23.4	11.7	31.2	15.6	39.0	19.5	N/A_{pk}
Back EMF constant (phase to phase)	18.0	9.0	27.0	13.5	36.0	18.0	45.0	22.5	$V_{pk}/m/s$
Fundamental forcer constant	6.47		7.92		9.13		10.24		$N/\sqrt{W}$
Eddy current loss	9.51		12.55		15.58		18.61		N/m/s
Resistance @ 25°C (phase to phase)	6.02	1.50	9.02	2.25	12.03	3.01	15.04	3.76	Ohm
Resistance @ 100°C (phase to phase)	7.75	1.94	11.63	2.91	15.51	3.88	19.39	4.85	Ohm
Inductance @ 1kHz (phase to phase)	3.90	0.97	5.85	1.46	7.80	1.95	9.75	2.44	mH
Electrical time constant	0.65		0.65		0.65		0.65		ms
Continuous working voltage	380		380		380		380		V d.c.
Pole pitch (one electrical cycle)	51.2		51.2		51.2		51.2		mm
Peak acceleration (3)	394	197	483	241	542	271	586	293	m/s^2
Maximum speed (4)	5.9	4.4	5.3	5.1	4.7	5.6	4.2	5.8	m/s

Notes: -

(1) S=series forcer phases, P=parallel forcer phases
(2) Reduce continuous stall force to 89% at 40°C ambient
(3) Based on a moving thrust rod with 27mm stroke and no payload
(4) Based on triangular move over maximum stroke and no payload

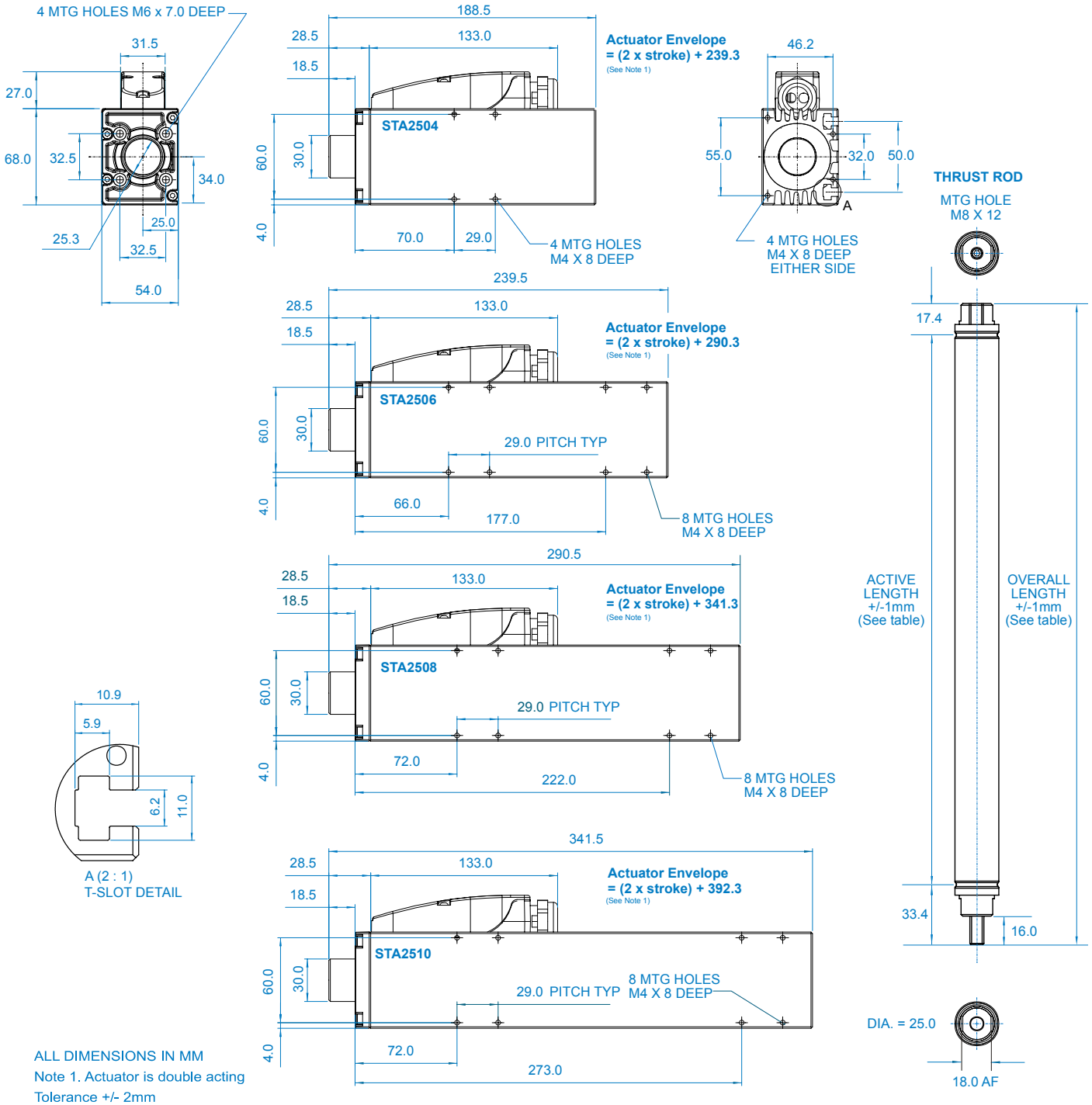
THERMAL SPECIFICATIONS

FORCER TYPE	2504	2506	2508	2510	units
Maximum phase temperature	100	100	100	100	°C
Thermal resistance $Rth_{phase\text{-}housing}$	0.41	0.27	0.20	0.16	°C/W
With 25x25x2.5cm heatsink plate					
Power dissipation @ 25°C ambient	62.3	77.0	89.2	100.2	Watt
Thermal resistance $Rth_{housing\text{-}ambient}$	0.79	0.69	0.64	0.59	°C/W
Without heatsink plate					
Power dissipation @ 25°C ambient	43.1	56.4	67.6	77.3	Watt
Thermal resistance $Rth_{housing\text{-}ambient}$	1.33	1.06	0.91	0.81	°C/W
Thermal time constant	1188	1276	1377	1486	s

MECHANICAL SPECIFICATIONS

FORCER TYPE	2504	2506	2508	2510	units
Maximum stroke	309	309	309	309	mm
Forcer mass	1.25	1.70	2.25	2.65	kg
Thrust rod mass/metre	3.5	3.5	3.5	3.5	kg/m

OUTLINE DRAWINGS

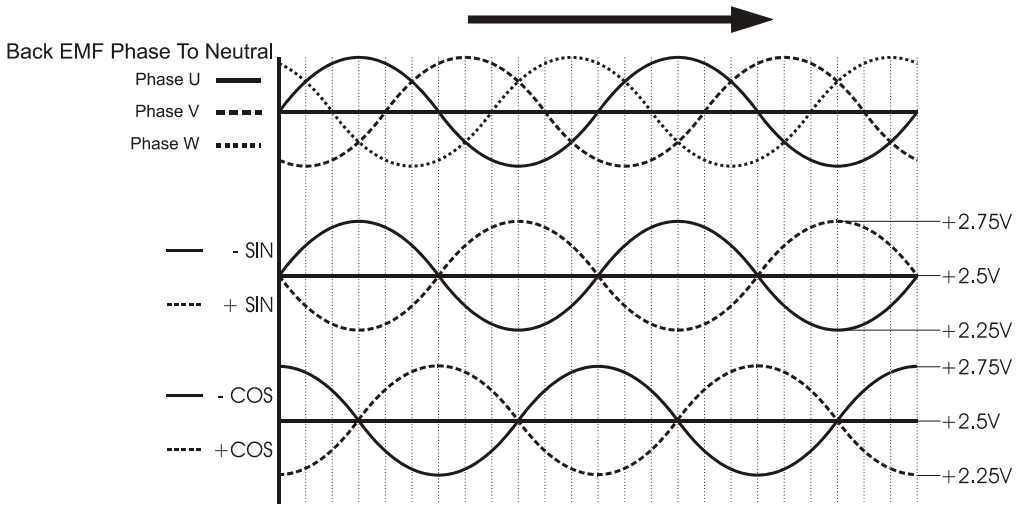


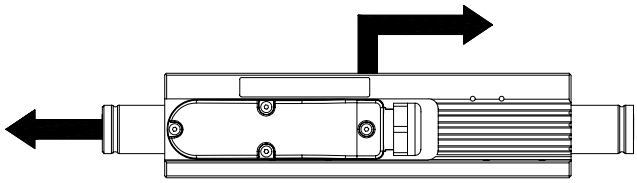
ALL DIMENSIONS IN MM
Note 1. Actuator is double acting
Tolerance +/- 2mm

Stroke	STA2504		STA2506		STA2508		STA2510	
(mm)	Overall	Active	Overall	Active	Overall	Active	Overall	Active
27	266	216	317	267	368	318	419	369
53	292	242	343	293	394	344	445	395
78	317	267	368	318	419	369	470	420
104	343	293	394	344	445	395	496	446
130	369	319	420	370	471	421	522	472
155	394	344	445	395	496	446	547	497
181	420	370	471	421	522	472	573	523
206	445	395	496	446	547	497	598	548
232	471	421	522	472	573	523	624	574
258	497	447	548	498	599	549	650	600
283	522	472	573	523	624	574	675	625
309	548	498	599	549	650	600	701	651

POSITION SENSOR

The position sensor outputs analogue, differential sine and cosine signals for providing position feedback. Shown below are the relationships between forcer phase back EMF and position sensor outputs for one direction of motion (as shown by arrows). It should be noted that +SIN or -SIN is always in phase with forcer phase U. For the motion shown, -SIN is in phase with forcer phase U. For motion in the opposing direction +SIN is in phase with forcer phase U.





Specification	value	units
Output signal period	51.2	mm
Signal amplitude (between +/- signals)	1	Vpk-pk
Output current	±10	mA
Supply voltage	5 ± 0.25	Vd.c.
Supply current (output current =0)	15 ± 5	mA
Resolution (1)	12	µm
Position Repeatability (2)	±12	µm
Absolute Accuracy (3)	±250	µm/m

Notes: -

(1) Dependent on amplifier.

(2) Dependent on amplifier. Under constant operating conditions. Self-heating of the thrust rod by the forcer will cause expansion in the thrust rod during the initial warm up period. In high duty applications (corresponding to an internal forcer temperature of 80°C) a 1 metre thrust rod will expand typically by 250µm.

(3) Maximum error over 1metre.

FORCER OVER TEMPERATURE SENSOR

It is strongly recommended that the forcer over-temperature sensor is connected to the drive amplifier or servo controller **<u>at all times</u>** in order to reduce the risk of damage to the forcer due to excessive temperatures.

Protection is provided by three, positive temperature coefficient (PTC) thermistors embedded in the forcer phases. As the forcer phase temperature approaches 100°C, the PTC thermistors exhibit a sharp increase in electrical resistance. This change in resistance can be detected by circuitry within the drive amplifier or servo controller and used to reduce or disable the output of the drive amplifier in order to protect the forcer.

Specification	value	units
Resistance in the temperature range -20°C to +70°C	60 to 750	Ohms
Resistance at 85°C	≤1650	Ohms
Resistance at 95°C	≥3990	Ohms
Resistance at 105°C	≥12000	Ohms
Maximum continuous voltage	30	Vd.c.

CABLE

The STA has two separate cables providing connections for forcer power and position sensor. There are two options available with option S being supplied as standard.

Option S cables are flexible but are not intended for continuous flex or energy chain applications.

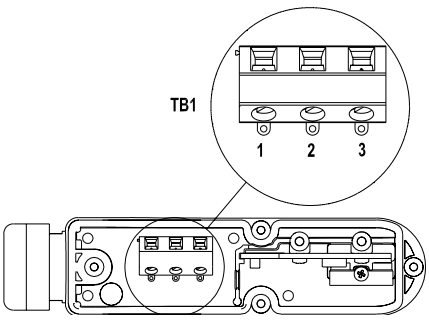
Option S specification	Power	Sensor
Overall diameter (nominal)	8.2mm	7.8mm
Outer jacket material	PVC	PVC
Number of conductors	4	4 x twisted pair
Size of conductors	1.5mm^2 (16 AWG)	0.14mm^2 (26 AWG)
Screened / Unscreened	Screened	Screened
Operating voltage	600Vrms	300Vrms
Minimum bending radius-fixed routing	41mm	40mm
Operating temperature-fixed routing	-40 °C to + 90 °C	-40 °C to +70 °C
UL style	2586 105 °C 600V	21083 90 °C 300V

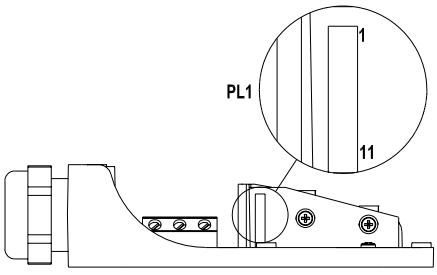
Option R cables are suitable for continuous flex or energy chain applications.

Option R specification	Power	Sensor
Overall diameter (nominal)	7.6mm	7.8mm
Outer jacket material	PUR	PVC
Number of conductors	4	4 x twisted pair
Size of conductors	1.5mm^2 (16 AWG)	0.14mm^2 (26 AWG)
Screened / Unscreened	Screened	Screened
Operating voltage	300Vrms	300Vrms
Minimum bending radius-flexible routing	38mm	58mm
Operating temperature- flexible routing	-40 °C to + 80 °C	+5 °C to +70 °C
UL style	20233 80 °C 300V	21083 90 °C 300V

CONNECTIONS

Connections within the forcer termination box are as follows: -





TB1	Function	Conductor designation
1	Forcer phase U	Black 1
2	Forcer phase V	Black 2
3	Forcer phase W	Black 3
Chassis	Protective earth + both cable screens	Green/Yellow

PL1 Sensor PCB	Function	Conductor designation
1	+SIN	Blue
2	-SIN	Black paired with Blue
3	+COS	White
4	-COS	Black paired with White
5	+5Vd.c.	Red
6	0V	Black paired with Red
7	Factory use. Do not connect	-
8	+TH (Thermistor)	Green
9	-TH (Thermistor)	Black paired with Green
10	Factory use. Do not connect	-
11	Factory use. Do not connect	-

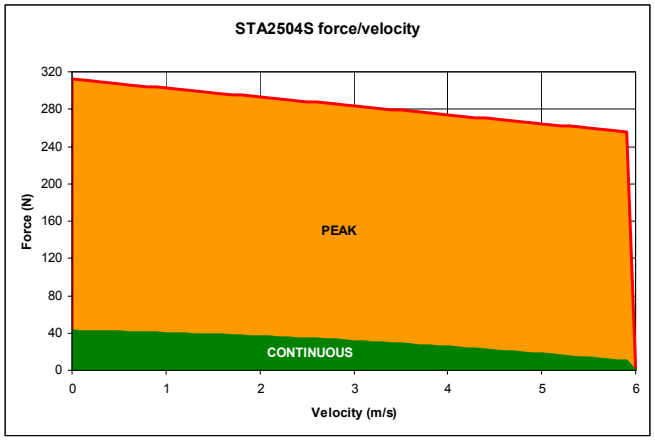
ENVIRONMENT

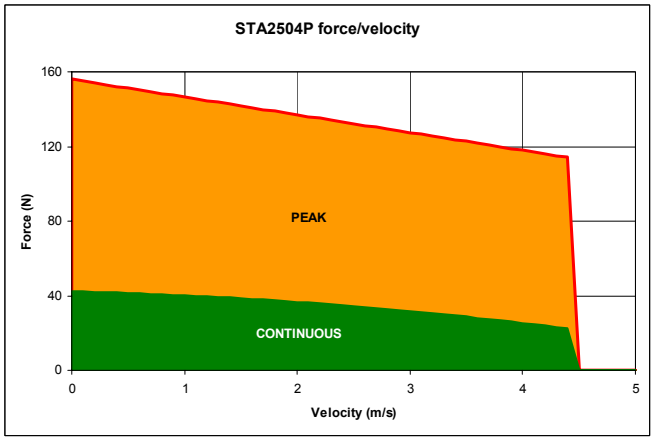
The STA is intended for use in an environment within the following conditions: -

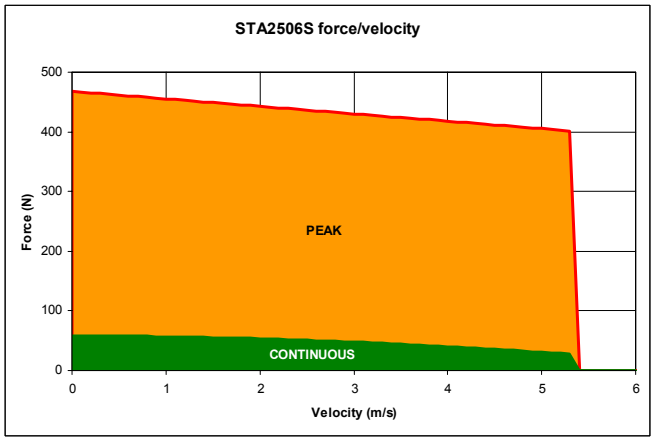
Operating temperature	0 to +40 °C
Storage temperature	-25 to +70 °C
Humidity (relative)	0 to 95% non-condensing
Altitude (above mean sea level)	1000m
Overvoltage category	II
Pollution degree	2
EMC	light industrial
Ingress protection	IP67

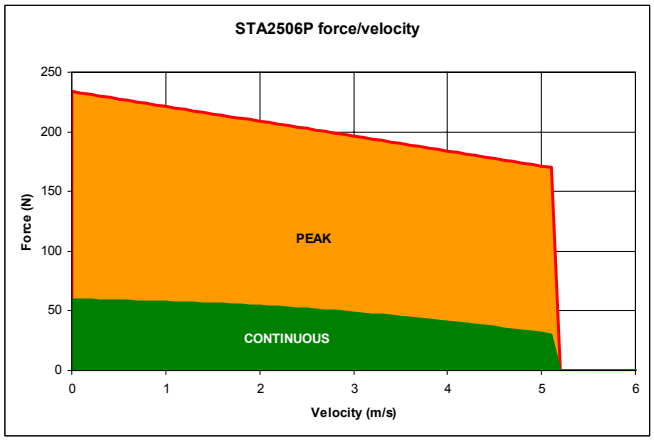
FORCE/VELOCITY PROFILES (WITH AN OPERATING VOLTAGE OF 325VD.C. AND NO PAYLOAD)

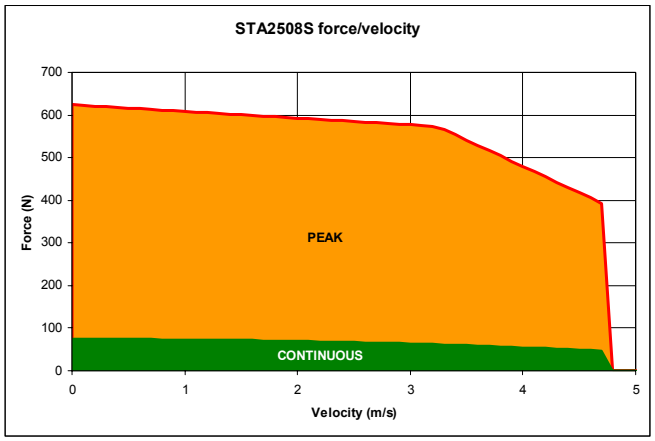
S=series forcer phases P=parallel forcer phases

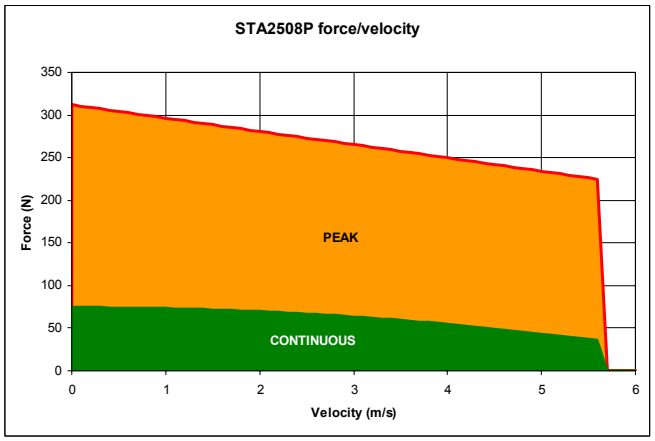


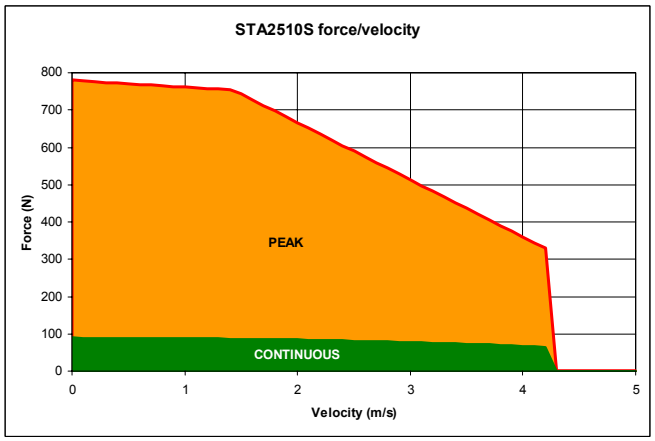


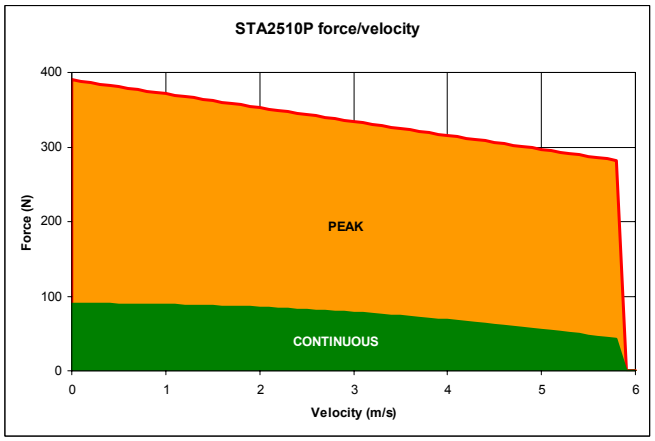












ORDER CODES

STA25□□ □-□□□-□-□ □□ □

Forcer
04, 06, 08, 10

Winding
S-Series
P-Parallel

Stroke
027, 053, 078, 104, 130, 155
181, 206, 232, 258, 283, 309
Stroke in mm

Environment
S-Standard
F-Food grade

Cable Termination
X-Xenus
F-Flying leads
P-Parker

Cable Length
03-3m
05-5m

Cable Type
S-Non-Robotic
R-Robotic

Telescopic drive
Telesmart TMA

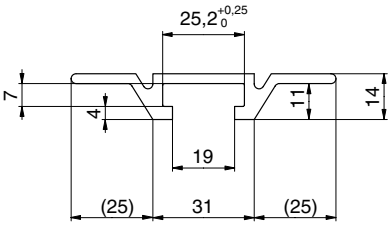
Technical data	Unit	Telesmart TMA
Max. pressure	N	1000*
Lift	mm	500
Lifting speed	mm/s	35 - 57
Height of block	mm	640
Voltage	V / Hz	24
Length of operating time / interrupt time		1 min ON / 9 min OFF
Temperature	°C	+5 to +40
Type of protection		IP 20
Weight	kg	8.0

*See loading diagram page 3

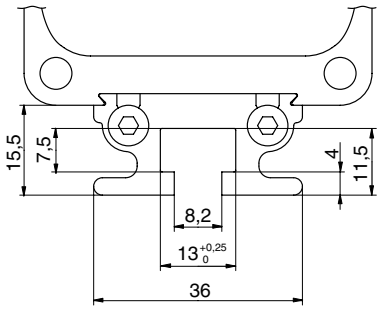
Assembly

For installing a cross member you may use as you choose either the fastening plate (on the lifting column profile) or the swallowtail bar (front side).

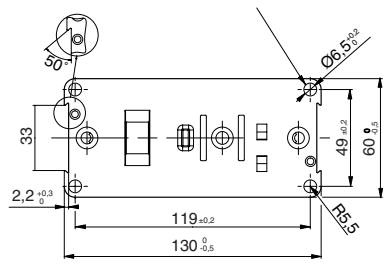
Further details for assembly and starting up are to be found in the Technical Instructions L5312,1690E.



Fastening plate (height 120 mm)



Section of lifting column with swallowtail bar



Holes for fastening screws (base plate of lifting column)

Switzerland:
Magnetic Elektromotoren AG
Oristalstrasse 97
CH-4410 Liestal

Phone +41 61 925 41 11
Fax +41 61 921 37 04
E-mail actuators.switzerland@skf.com
Web www.magnetic.skf.com

Germany:
Magnetic Elektromotoren GmbH
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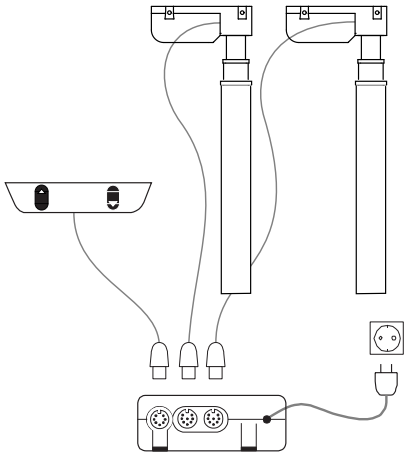
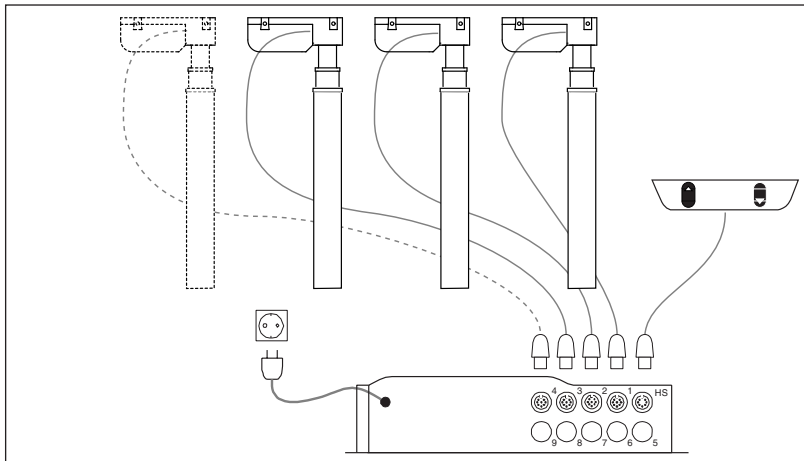
Examples of connections

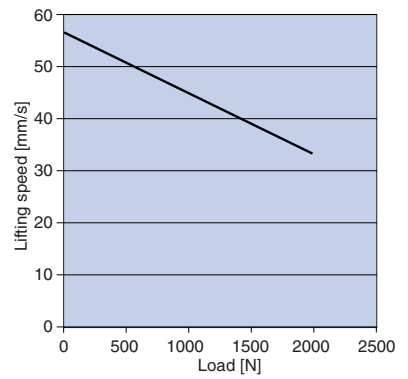


Electrical connection with LD-015

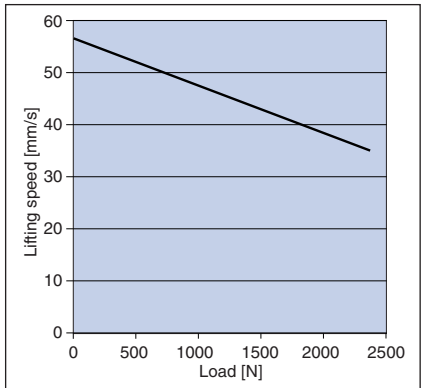


Electrical connection with LD-014

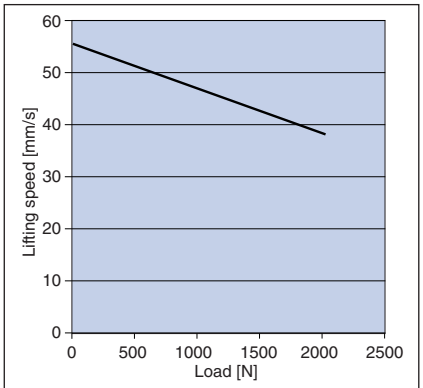
Characteristics



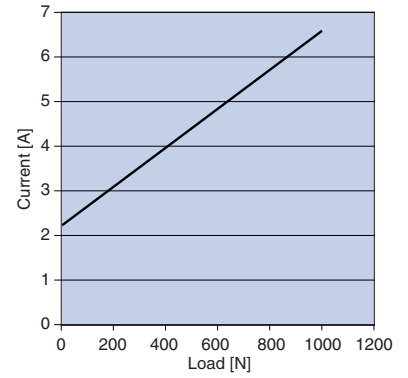
Lifting speed 2-channel control



Lifting speed 3-channel control



Lifting speed 4-channel control



Current requirement (U = 24V DC)

Type	Load
Load 2-leg-table	Max. 2000 N centric/table
Load 3-leg-table	Max. 2000 N centric/table
Load 4-leg-table	Max. 2000 N centric/table
The load of max. 1000 N centric/leg may not be exceeded.	

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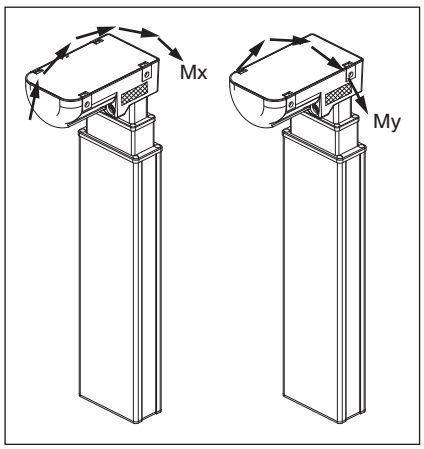
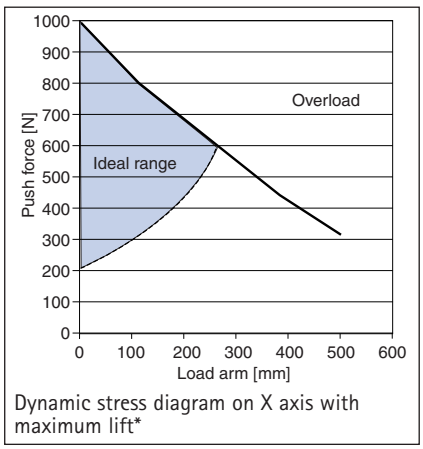
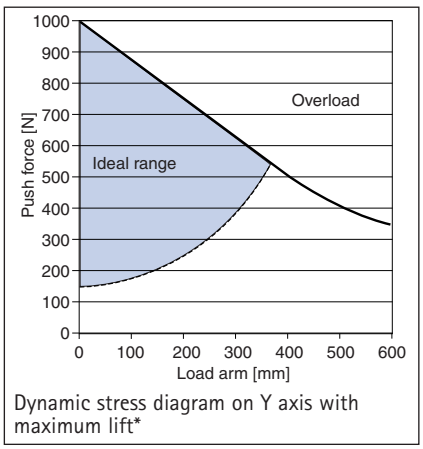


Stroke [mm]	Mx [Nm]	Stroke [mm]	My [Nm]
500	370	500	500
350	500	350	1400
0	550	0	1400

Static moment Mx/My to plastic deformation in direction of stress

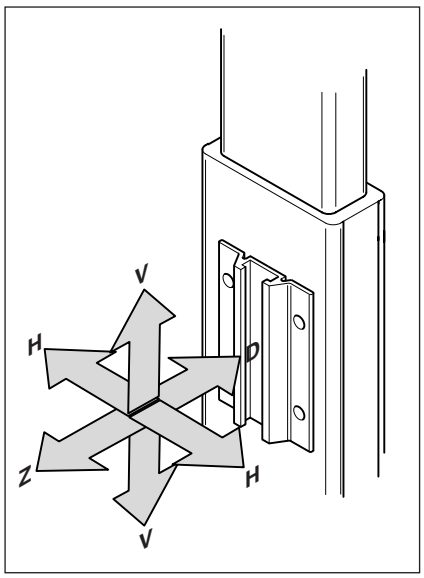


Dynamic stress diagram on X axis with maximum lift*



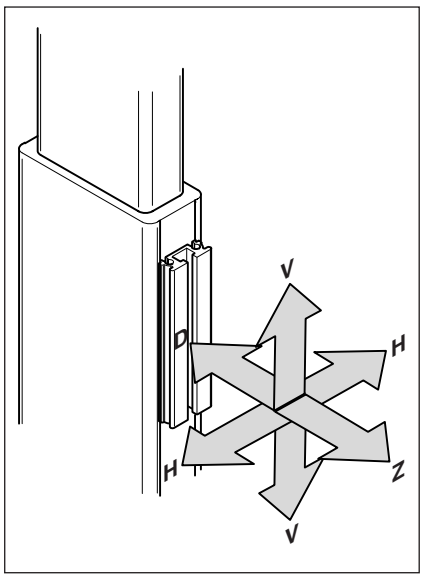
Dynamic stress diagram on Y axis with maximum lift*

* The values given apply to single lifting columns. With a stable table structure the ideal field of use can be enlarged.



D =	Pressure	not acceptable
Z =	Traction	max. 2000 N
V =	Vertical moment	max. 150 Nm
H =	Horizontal moment	not acceptable

Acceptable stresses for fastening plate*



D =	Pressure	not acceptable
Z =	Traction	max. 1000 N
V =	Vertical moment	max. 80 Nm
H =	Horizontal moment	max. 80 Nm

Acceptable stresses for swallowtail bar*

* The values apply to isolated moving parts and not in the application

L5322,1691E.1/08.02

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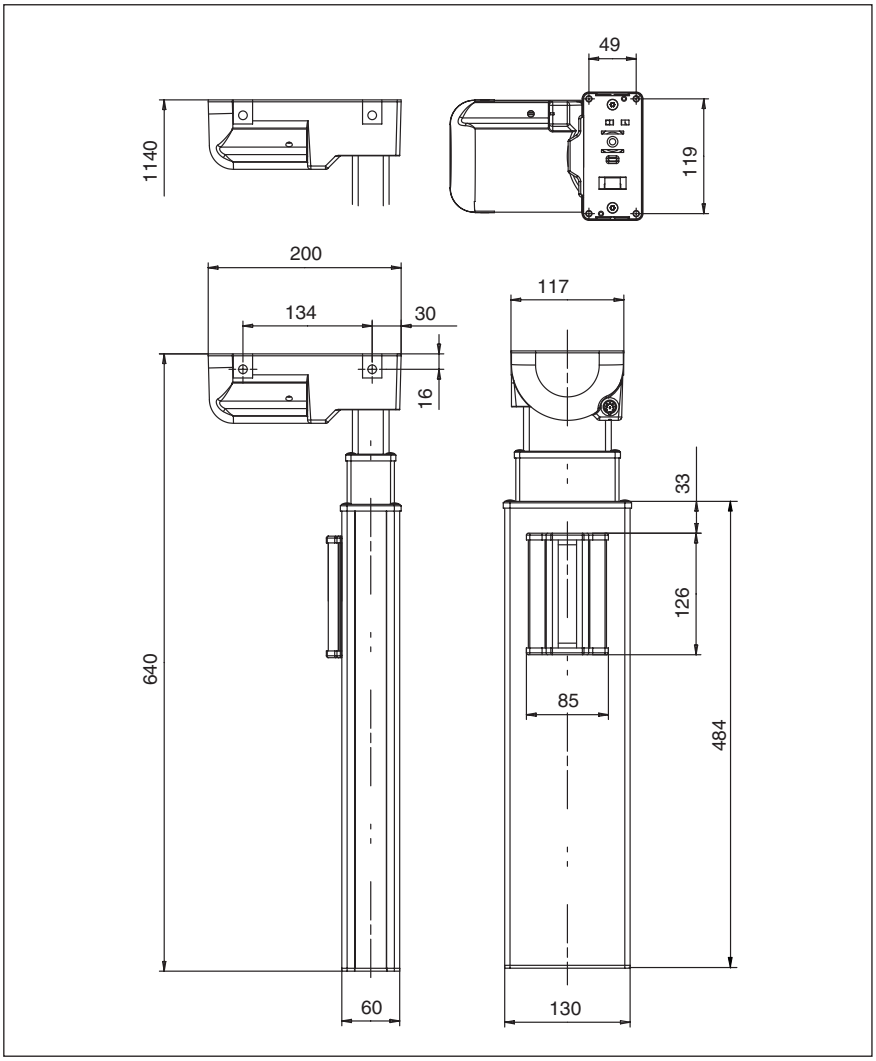
Dimensions (in mm)



Attachments

Connecting cable length 1000 mm	Art. No. 306355-1000
Connecting cable length 1500 mm	Art. No. 306355-1500
Swallowtail bar, colourless lacquered	Art. No. 306226-0005
Swallowtail bar, black lacquered	Art. No. 306226-0006
Plastic cover for swallowtail bar, grey RAL 7035	Art. No. 306392-0003
Plastic cover for swallowtail bar, black RAL 9005	Art. No. 306392-0006
Main connection, EU grooving (M8)	Art. No. 306390-0010
Main connection USA grooving (UNF $^{5}/_{16}$")	Art. No. 306390-0020
Plastic cover for main connection, grey RAL 7035	Art. No. 306388-0003
Plastic cover for main connection, black RAL 9005	Art. No. 306388-0006
Enclosed nuts for motor housing EU (M8)	Art. No. 510026
Enclosed nuts for motor housing USA (UNF $^{5}/_{16}$")	Art. No. 510934
Screws for base connection Taptite M6x40 DIN 7500	Art. No. 510901

Further information can be found in our data sheets:

Table switch	*L530_2990e*
Small control unit	*L530_2992e*
Large control unit	*L530_2993e*

Subject to technical modifications.
The manufacturer/operator must check if the Magnetic products are suitable for use in his application.

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magnetic
The Linear Drives Company™

Telescopic drive
Telesmart TMD

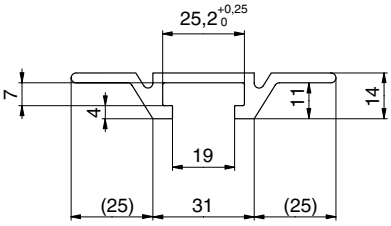
Technical data	Unit	Telesmart TMD
Max. pressure	N	800*
Lift	mm	700
Lifting speed	mm/s	37 - 60
Height of block	mm	550
Voltage	V / Hz	24
Length of operating time / interrupt time		1 min ON / 9 min OFF
Temperature	°C	+5 to +40
Type of protection		IP 20
Weight	kg	8.5

*See loading diagram page 3

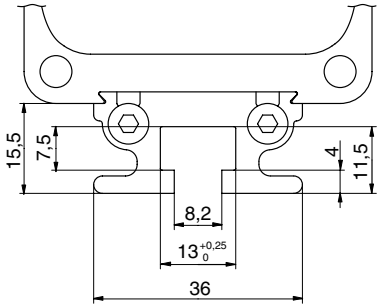
Assembly

For installing a cross member you may use as you choose either the fastening plate (on the lifting column profile) or the swallowtail bar (front side).

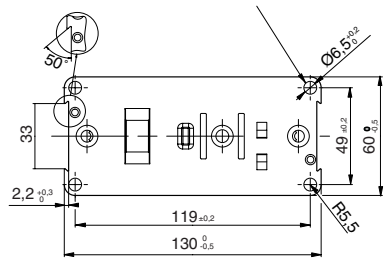
Further details for assembly and starting up are to be found in the Technical Instructions L5312,1690E.



Fastening plate (height 120 mm)



Section of lifting column with swallowtail bar



Holes for fastening screws (base plate of lifting column)

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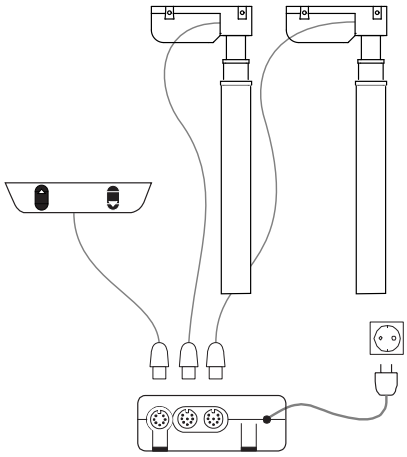
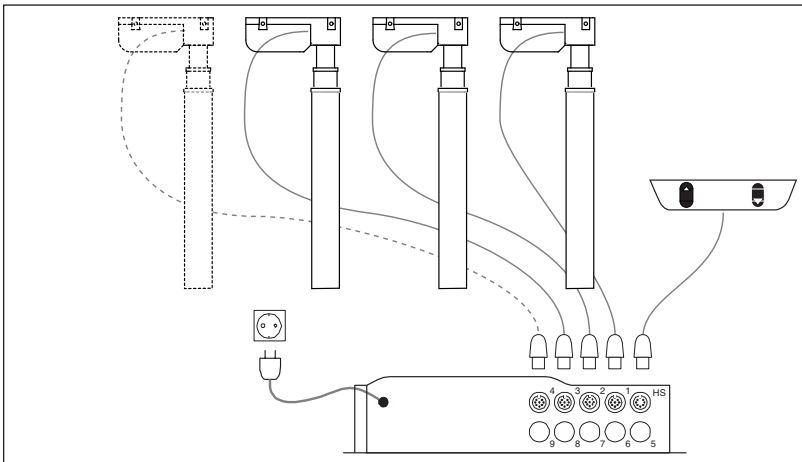
Examples of connections

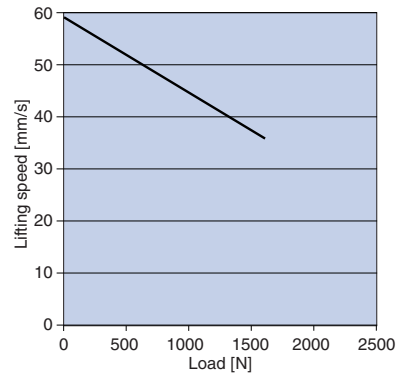


Electrical connection with LD-015

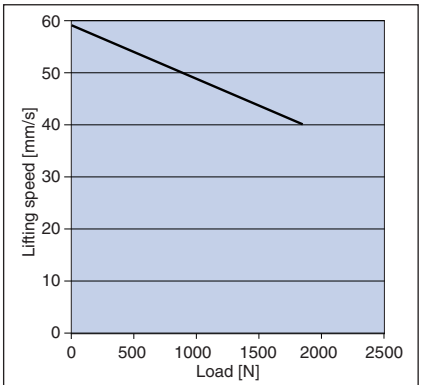


Electrical connection with LD-014

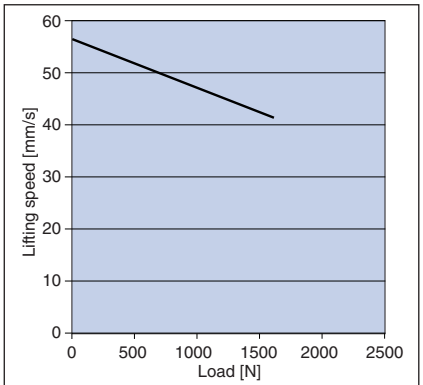
Characteristics



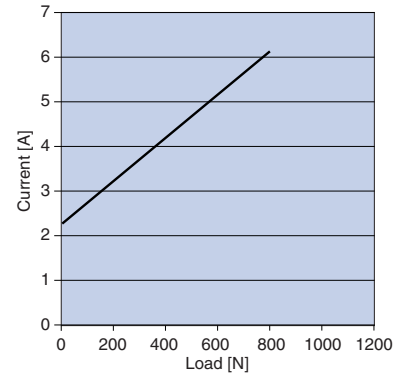
Lifting speed 2-channel control



Lifting speed 3-channel control



Lifting speed 4-channel control



Current requirement (U = 24V DC)

Type	Load
Load 2-leg-table	Max. 1600 N centric/table
Load 3-leg-table	Max. 1800 N centric/table
Load 4-leg-table	Max. 1600 N centric/table
The load of max. 800 N centric/leg may not be exceeded.	

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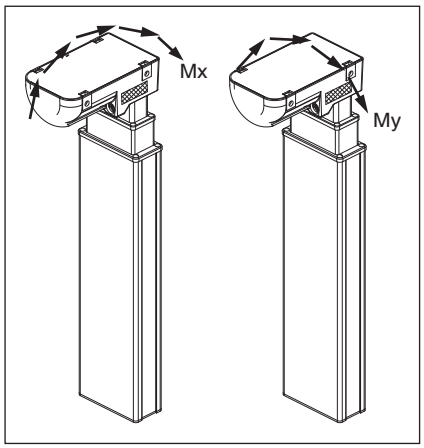
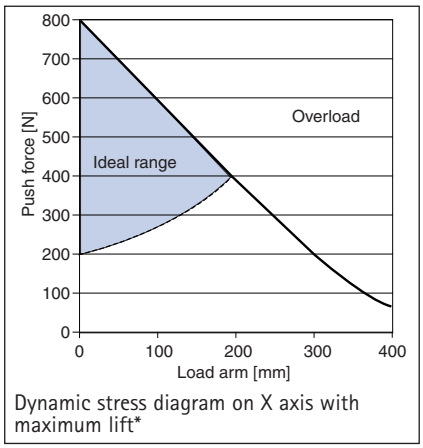
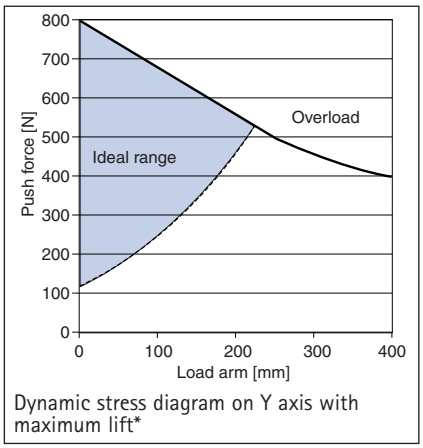


Stroke [mm]	Mx [Nm]	Stroke [mm]	My [Nm]
700	250	700	500
350	500	350	1400
0	550	0	1400

Static moment Mx/My to plastic deformation in direction of stress

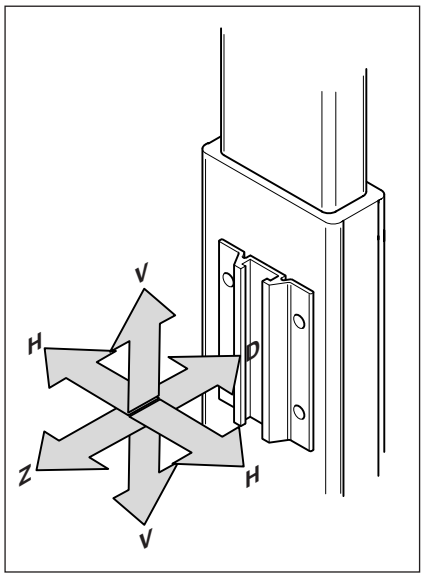


Dynamic stress diagram on X axis with maximum lift*



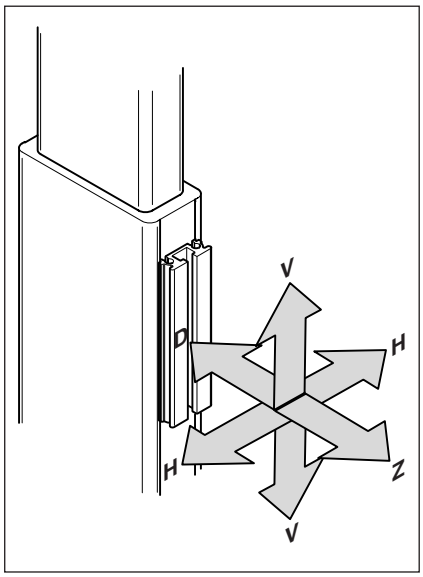
Dynamic stress diagram on Y axis with maximum lift*

* The values given apply to single lifting columns. With a stable table structure the ideal field of use can be enlarged.



D =	Pressure	not acceptable
Z =	Traction	max. 2000 N
V =	Vertical moment	max. 150 Nm
H =	Horizontal moment	not acceptable

Acceptable stresses for fastening plate*



D =	Pressure	not acceptable
Z =	Traction	max. 1000 N
V =	Vertical moment	max. 80 Nm
H =	Horizontal moment	max. 80 Nm

Acceptable stresses for swallowtail bar*

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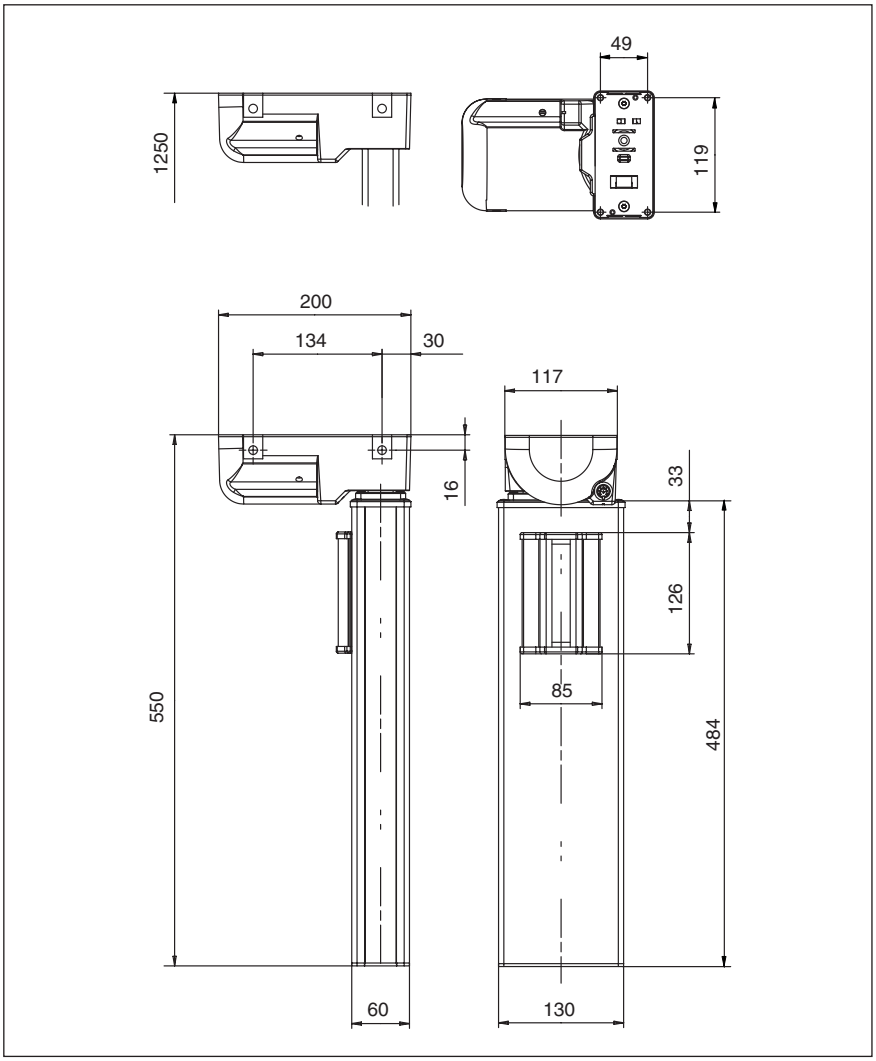
Dimensions (in mm)



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Enclosed nuts for motor housing USA (UNF $^{5}/_{16}$")	Art. No. 510934
Screws for base connection Taptite M6x40 DIN 7500	Art. No. 510901

Further information can be found in our data sheets:

Table switch	*L530_2990e*
Small control unit	*L530_2992e*
Large control unit	*L530_2993e*

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Catálogo Resumen

magnetic

The Linear Drives Company™

Accionamientos lineales eléctricos

ACTIVIDAD ACCIONAMIENTOS

ELION

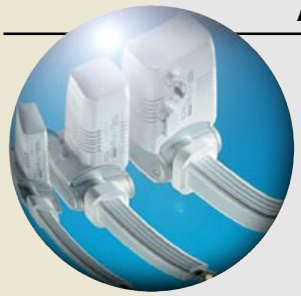
La Solución en Automatismos

magnetic
The Linear Drives Company™

Magnetic, fabricante suizo de actuadores lineales eléctricos es una de las firmas líder en diseño y fabricación de actuadores, columnas telescópicas y controles. Su extensa gama de productos se aplica mundialmente en el sector médico, rehabilitación, mobiliario ergonómico y de confort así como en innumerables aplicaciones industriales.
Más de 50 años en el mundo del movimiento linear eléctrico y una amplia red a nivel mundial garantizan un producto de inmejorables prestaciones, innovadoras soluciones y un óptimo servicio.

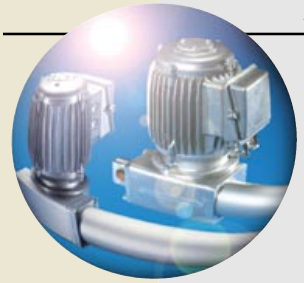
Columnas Telescópicas

TELEMAG
TELESMART
TMA/TMD



Actuadores

MATRIX
ECOMAG
MAGGEAR



Actuadores (Gama Industrial)

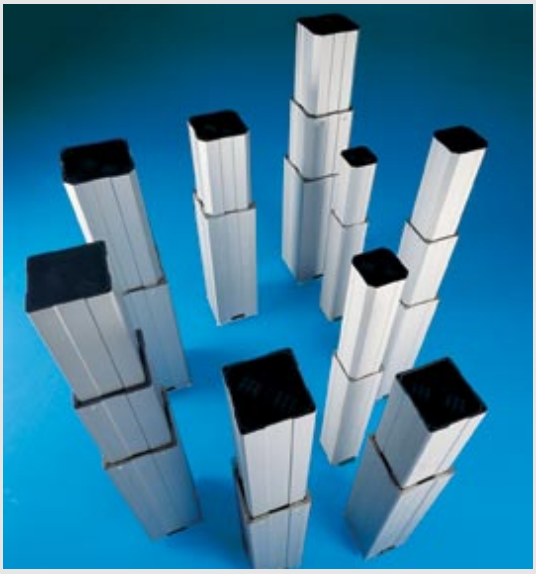
MAGPUSH
MAGFORCE
ILD

Elementos de control

KOM
SEM
MCU
CBB / CBS
Mandos y Accesorios

ELION

Columnas telescópicas



TELEMAG

Sólidas y elegantes columnas de aluminio ideales para elevación de carga, incluso lateral, con precisión y seguridad.
Disponibles en versión telescópica de 2 ó 3 secciones, con reducida longitud de instalación y extensa carrera. Pueden controlarse a través de un simple mando neumático. Múltiples aplicaciones en sector médico, mobiliario e industria.

Alimentación AC/DC
Fuerza máx. 4000 N
Velocidad hasta 42 mm/s
Carreras hasta 700mm

TELESMART

Columna telescópica de dos secciones para elevación de cargas ligeras a medias.
Posibilidad de conectar una segunda columna a la principal, formando un tándem sincronizado sin necesidad de controles externos.
Creadas para la regulación de todo tipo de mobiliario y ligeras mesas de trabajo en la industria.

Alimentación AC/DC
Fuerza 1500 N
Velocidad 17-21 mm/s
Carreras hasta 600 mm

TMA / TMD

Esta novedosa versión de columna telescópica especialmente diseñada para la regulación de mesas de trabajo, garantiza máxima estabilidad a cualquier altura.
De estilizado diseño, seguras, rápidas y muy silenciosas satisfacen las más exigentes demandas en ergonomía.
Se fabrican en dos versiones de muy sencilla instalación.

Alimentación 24 VDC
Fuerza máx. 1000 N
Velocidad hasta 60 mm/s
Carreras hasta 700 mm

(Ver elementos de control pág. 4)

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The Linear Drives Company™

Actuadores

MATRIX

Actuadores de construcción modular, con excelente rendimiento tanto en aplicaciones médicas como en industria.
Disponibles en diversas versiones de motor y con múltiples accesorios y opciones como descenso rápido de emergencia, desembrague manual, antipinzamiento o conexión directa para alimentar a un segundo motor.
Controlables a través de las fuentes de alimentación KOM o directamente mediante la amplia gama de mandos.

Alimentación AC/DC
Fuerza máx. 8000 N
Velocidad 6-15 mm/s
Carreras hasta 700mm

ECOMAG

Especialmente indicados para aplicaciones tanto en sector médico, rehabilitación y tratamiento como en doméstico.
Junto con la unidad de control SEM, integrable en el actuador, forman un eficiente sistema compacto.
Disponibles en versión standard y de menor tamaño, ofrecen una sencilla y fiable solución a un precio muy atractivo.

Alimentación 24 VDC
Fuerza máx. 6000 N
Velocidad 4-13 mm/s
Carreras hasta 300 mm

MAGGEAR

Potente actuador de reducidas dimensiones, diseñado para ser fácilmente integrado en la estructura del mobiliario.
Grupos sincronizados de 2, 3 ó 4 unidades.

Alimentacion 24 VDC
Fuerza 800 N
Velocidad 8 mm/s
Carrera 200 mm

(Ver elementos de control pág. 4)

MAGPUSH

Actuadores lineales cilíndricos de eje hueco; silenciosos, de reducidas dimensiones y alto rendimiento.
Instalación en prácticamente cualquier lugar y posición.

Alimentación AC/DC
Fuerza hasta 5000 N
Velocidad 0,3-30 mm/s
Carreras 10-310mm

MAGFORCE

Comprenden la gama más robusta. Compactos, eficientes y muy silenciosos, son ideales para trabajar bajo temperaturas extremas y en entornos hostiles.
Múltiples aplicaciones en industria, ingeniería del vehículo y manipulación de carga pesada.

Alimentación AC/DC
Fuerza hasta 60 kN
Velocidad 1-100 mm/s
Carreras hasta 700mm

ILD: actuador lineal inteligente

El concepto del ILD consiste en un compacto y potente sistema lineal con control electrónico integrado bajo una robusta cubierta de aluminio.
Equipado con velocidades programables, rampas de aceleración y freno, finales de carrera ajustables, operación manual de emergencia o comunicación.

Alimentación 230V/50 Hz
Fuerza hasta 20 kN
Velocidad 5-200 mm/s
Carreras hasta 1500mm

Elementos de control

Conjunto de fuente de alimentación KOM, mandos y accesorios.

ELEMENTOS DE CONTROL

Convenientemente combinadas con actuadores y accesorios, forman el sistema apropiado para cada necesidad.

- Operación independiente de hasta 5 actuadores
- Grupos sincronizados
- Funciones de memoria
- Batería externa o integrada para funcionamiento contínuo o de emergencia
- Doble microprocesador para aplicaciones médicas
- Dispositivos adicionales de seguridad
- Programaciones específicas por proyecto

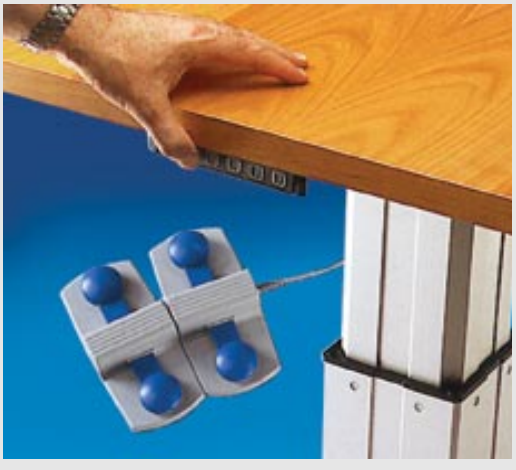
Completan la extensa gama de productos Magnetic combinables:
Mandos manuales, de pié o empotrables; a baja tensión, neumáticos o infrarrojos; y numerosos accesorios como sistemas de bloqueo de funciones, cajas distribuidoras, finales de carrera, cables, etc.

◀ Sistema MOBILETTE Unidad de control con pack de baterías de 4,5Ah (especial para grúas de elevación).

Fuente de alimentación SEM, integrable en actuador Ecomag. ▶

◀ Fuente de alimentación CBB.

◀ Modernos mandos empotrables y de pie. ▶



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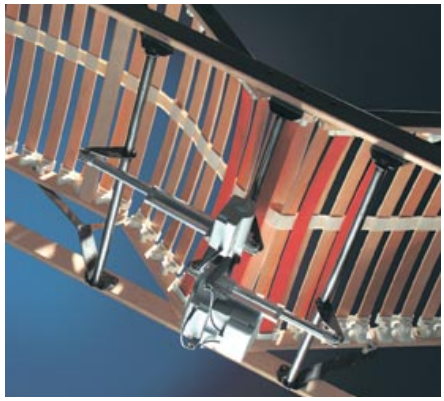
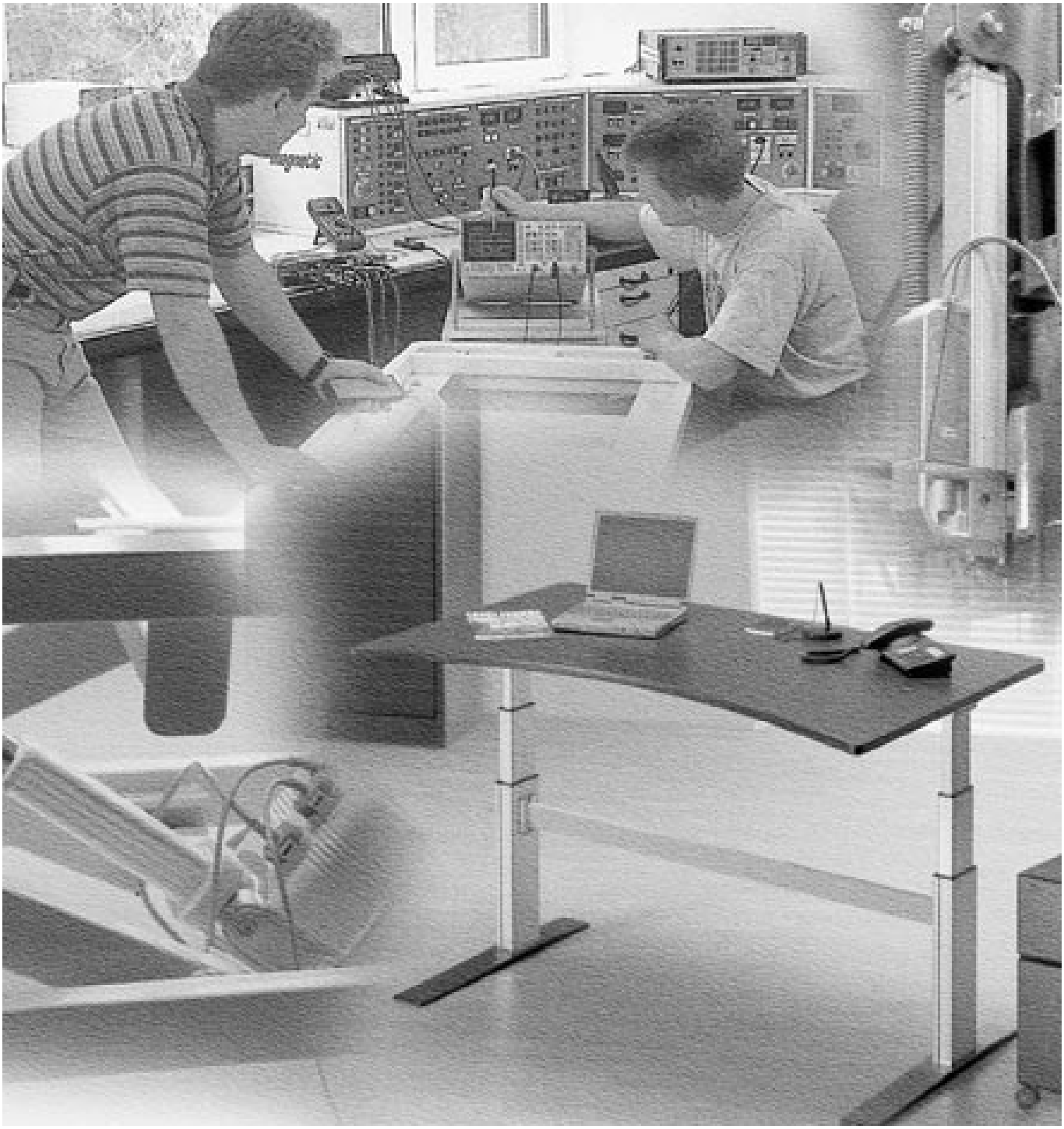
Todos los productos Magnetic se ajustan a las Normativas específicas necesarias para cada aplicación: Requisitos de Seguridad en equipos médicos; uso doméstico e industrial. Consúltenos; nuestro equipo de profesionales le proporcionará el mejor asesoramiento para cada aplicación.





AC1101G01 (1000 - 7/01)

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Telescopic drive TELESMART

TXG

Technical data:	Type	TXG9	TXG8	TXG5	TXG4	TXG1
Version		Stand-Alone	Stand-Alone	Stand-Alone	Stand-Alone	Slave
Push force (max.)*	N	1500	1500	1500	1500	1500
Speed	mm/s	17 – 23	17 – 23	17 – 23	17 – 23	17 – 23
Stroke (in step of 100)	mm	200 – 600	200 – 600	200 - 600	200 - 600	200 - 600
Block height, 2 x	mm	380 – 780	380 – 780	380 – 780	380 – 780	380 – 780
Voltage	V / Hz	230 / 50	230 / 50	120 / 50/60	120 / 50/60	24DC
Current consumption	A	0,9	0,9	1,8	1,8	5
Duty cycle: Intermittent mode	Int.	1 / 9	1 / 9	1 / 9	1 / 9	1 / 9
Ambient temperature	°C	+10 / +40	+10 / +40	+10 / +40	+10 / +40	+10 / +40
Protection/Insulation Class	IP	30/I	30/II	30/I	30/II	30/-
Weight	kg	9 – 14	9 – 14	9 – 14	9 – 14	8 – 13

* See Load diagrams on page 2

Description

TELESMART lifting columns consist of two design aluminium profiles, one inside the other, which are extended and retracted by means of an integrated linear actuator.
The outer surface of the stylish aluminium profile is matt anodised. The no-play sliding devices ensure the profiles can be extended and retracted without friction, even in the case of eccentric loads.
TELESMART lifting columns have been designed to handle compressive loads.
The actuator takes the form of a DC motor with worm gear, whose rotary motion is converted into a linear motion by means of a spindle nut system. The linear actuator is self-locking in every orientation and has been designed for intermittent operation. A thermal link is installed to protect the actuator against overheating and will trip in the event of an overload. Actuators which have no mains connection („slave“) are protected against overload by means of a suitable control unit or master-actuator. The stroke is limited by the integrated limit switches at the terminal positions.
Both ends of the column can be used for power supply and control purposes.

Control

The control unit for the TELESMART lifting column is integrated into the actuator. There is therefore no need for any additional control unit to be fitted externally. An integrated microprocessor control unit is also available as an optional extra which can be used for up to two actuators working in parallel and/or for memory functions.
Electrical connection
There are 3 different TELESMART models.
- Protection class II (standard)
- Protection class I with feedthrough power cable and protective conductors (max. 6A,250V/50–60Hz)(optional)
- 24 V DC version (optional)

The electrical connections are labelled on the actuator. Simply connect the power cable and control cable to the appropriate connectors.
Electrical cordsets must be laid and secured so as to prevent any damage caused by crushing, bending or tension.

Control devices
A number of cutting-edge desk, hand or foot switches are available for controlling the TELESMART lifting column.

We recommend the following Magnetic control devices:
- COMFODESK foot switch
  Type: STF01-0V3000-0000
  Type: STF02-0V3000-0000
  Type: STF03-0V3000-3700
- COMFODESK desk switch
  Type: STA01-WV6MAU-X100
  (for use without memory)
  Type: STA03-WV6MAU-3700
  (for use with memory)
- ECOMAG hand switch
  Type: EHE11-1110B-000
  (for use without memory)

Installation
The TELESMART lifting column is secured to the moving construction elements at the top and bottom of the telescopic column using 4 M6x40 bolts (DIN 7500) in each case, tightening torque 10 Nm. The bolts are screwed in to a minimum of 25 mm.
TELESMART lifting columns can be mounted either directly or by using 10 mm-thick aluminium fastening plates which are available as optional extras.
More information concerning the installation you'll find in the Technical Instructions.

L5322, 1680E.0/12.01

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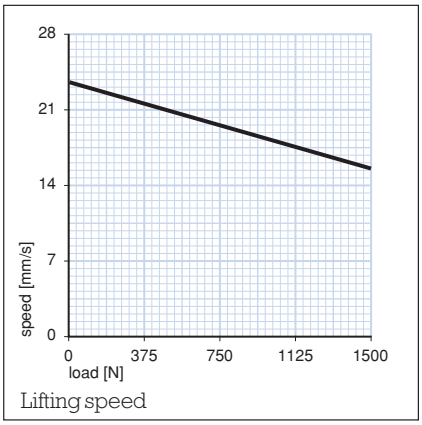
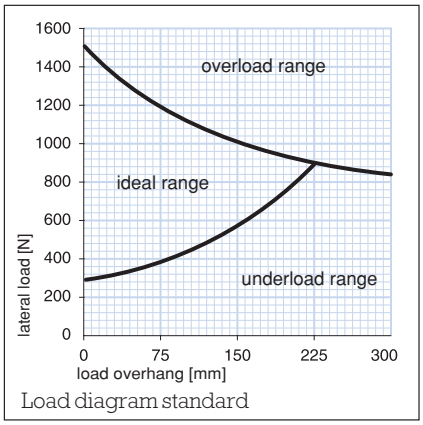
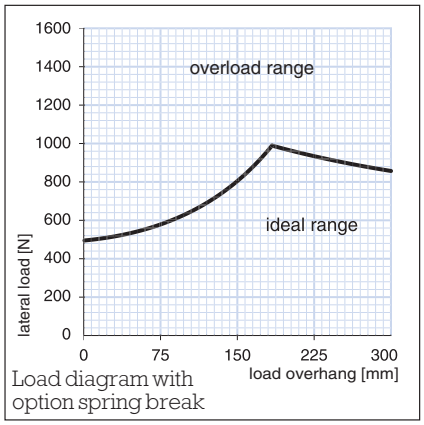


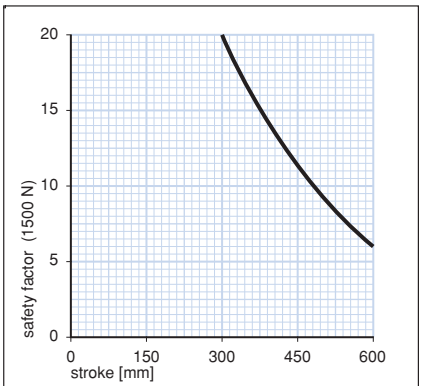
Lifting speed



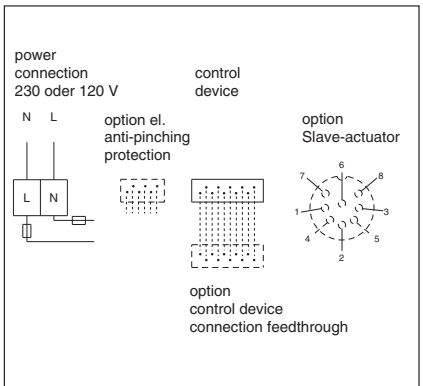
Load diagram standard



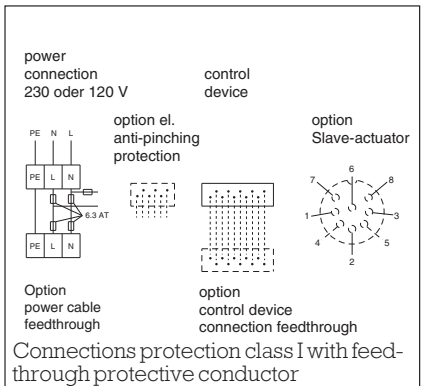
Load diagram with option spring break



Lead screw buckling



Connections protection class II



Connections protection class I with feed-through protective conductor (not connected to telescopic column)

Note:

- The total load in parallel operation must not exceed the maximum load of a single TELESMART lifting column.
- If fastening plates are not used, the auxiliary plates on the TELESMART must be supported over their entire area.
- If the user uses his own fastening plates, these must be drilled in accordance with the dimension drawing.
- The auxiliary plate is screw-connected and must not be removed.
- Where loads are eccentric, adhere to the lifting force diagram or contact the manufacturer.
- At the terminal position, there is a risk of crushing between the fastening plate and the end of the tube.
- The Technical Manual must be observed when putting the unit into service.

Maintenance

During its service life the TELESMART requires no maintenance. The service life depends on type and application. Faulty actuators may only be opened and repaired at our factory.

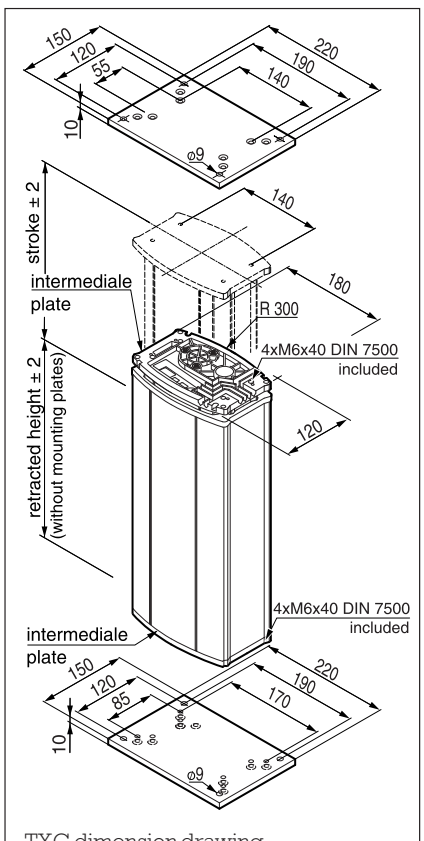
Options

The TELESMART lifting column can be supplied with the following additional functions:

- Control device connection feed-through
- Power cable feedthrough
- Connection for external electrical anti-pinching protection
- Parallel operation for 2 actuators
- Memory functions
- Encoder
- Customer-specific choice of colours

Accessories

- Country-specific power cables
- Fastening plates (aluminium)



TXG dimension drawing

Subject to technical modifications.
The manufacturer / user must check that the products of Magnetic are compatible with his application

L5322, 1680E.0/12.01

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Telescopic pillar
TELEMAG™ TFG

Features
- Push or pull force
- Compact design
- Fast movement
- Powerful

Description
TELEMAG TFG is a very compact, fast and powerful lifting pillar for loads of up to 2 500N. The TFG can be used for push or pull applications. Thanks to the rigid aluminium profiles and the precision glide pads, the TFG can lift off-centre loads without distorting.

The pillar consists of three designed aluminium profiles inside each other which are extended and retracted by means of an integrated linear actuator. TFG integrates a DC-motor with worm gear, whose rotary motion is converted into a linear motion by means of a spindle nut system.

The pillars run very quietly and with minimum vibration at a maximum speed of 19mm/s. Maximum stroke length is 400mm. The TFG is self-locking for both push and pull. The stroke is limited by integrated end limit switches. For additional safety the TFG has cut-off switches at the end positions as well as a back up nut.

Pillars which have no mains connection are protected against overload by means of a suitable control or master unit.

The actuator complies with IP30 and is tested in accordance with EN/UL 60601-1. Voltage options are 24, 120 and 230 Volts. Control and operating interface accessories are available.

The TFG is compatible with all the other actuators from SKF Magnetic and can be utilized in a full system of actuators and controls.

Options
- Encoder
- Cable feed-through

Accessories
- Control boxes
- Hand switches
- Foot switches

Standards
- EN/IEC 60601-1
- UL 60601-1

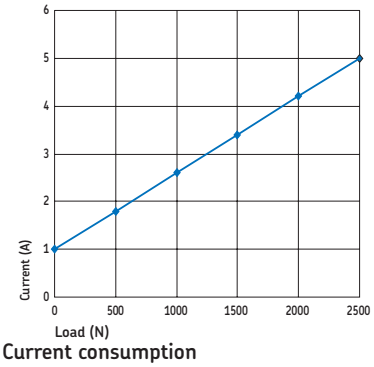
Maintenance
The TELEMAG TFG requires no maintenance during its lifetime. The service life that can be expected from the actuator depends on the particular model and the application. In this respect, users must carry out their own tests.

Faulty actuators may only be opened and repaired at our factory.

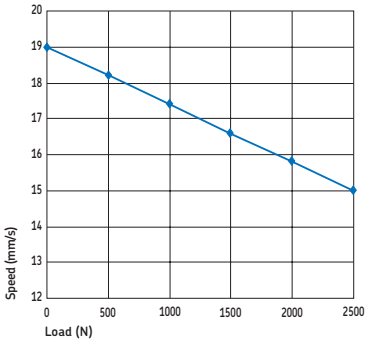
Information regarding installation is available from the operating manuals.

Technical data	Type	24V DC	120/230V AC
Max. force* (push or pull)	N	2 500	2 500
Speed	mm/s	15 to 19	15 to 19
Stroke	mm	200 to 400	200 to 400
Retracted length (3 sections)	mm	S+130	S+130
Voltage input	V	24	120/230
Current consumption	A	5	1,8/1
Duty cycle intermittent operation		1/9 min	1/9 min
Duty cycle short-time operation		3 min	3 min
Ambient temperature	°C	+10 to +40	+10 to +40
Protection class	IP	IP 30	IP 30
Isolation class		SELV	I
Weight	Kg	8 to 13	8 to 13

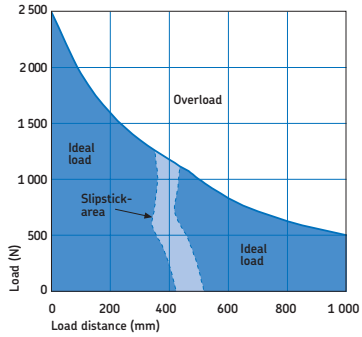
*See offset load diagram on next page.



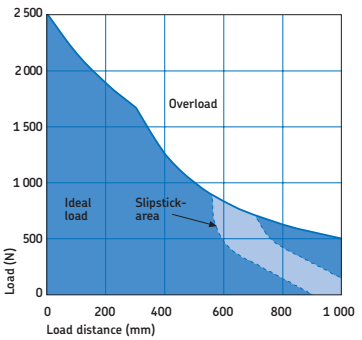
Current consumption



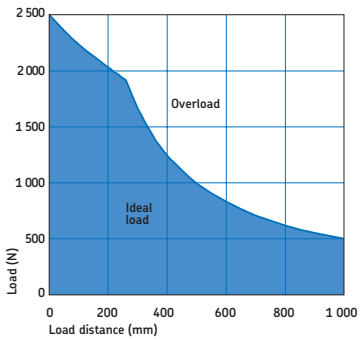
Speed



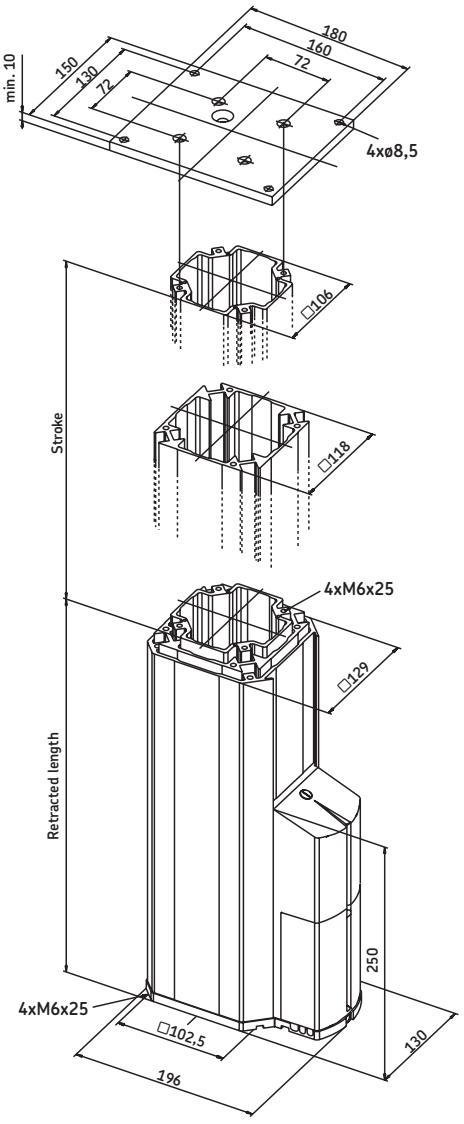
Offset load diagram - 200mm stroke



Offset load diagram - 300mm stroke



Offset load diagram - 400mm stroke



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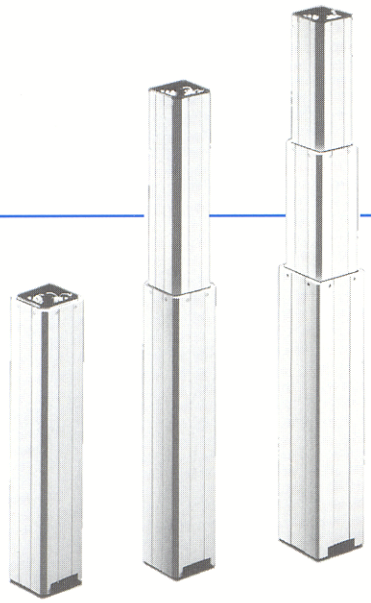

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TELEMAG
telescopic drives

TGC 8A . . .

Technical data:	Type	TGC 8AWAS	TGC 8AWAK	TGC 8AWDS	TGC 8AWDK
Push force max. (pull optional)	N	1000[1]	1000[1]	1000[1]	1000[1]
Speed	mm/s	9	9	9	9
Stroke	mm	200-700	200-700	300-700	300-700
Retracted height	mm	345-845	345-845	345-745	345-745
Telescopic column version		2-section	2-section	3-section	3-section
Voltage	V/50 Hz	230	230	230	230
Power consumption	W	210	210	210	210
Current consumption	A	0.95	0.95	0.95	0.95
Duty cycle: intermittent operation	Int.	1 min./19 min.[2]	1 min./19 min.[2]	1 min./19 min.[2]	1 min./19 min.[2]
Duty cycle: short-time operation	KB	2 min.[2]	2 min.[2]	2 min.[2]	2 min.[2]
Ambient temperature °C		+10°/+40°	+10°/+40°	+10°/+40°	+10°/+40°
Degree of protection	IP	30	30	30	30
Type of control		electrical	pneumatic	electrical	pneumatic
Weight	kg	4.5-7.5	4.5-7.5	5.9-9.5	5.9-9.5

[1] Push force max. 700 N (600 – 700 mm stroke)

[2] measured by 253 V

Description

The TELEMAG telescopes consist of two or three square aluminium sections inserted in one another which are telescoped and retracted by an integrated linear drive.
The outer surface of the special aluminium sections is dull anodized. The slideways being free of play ensure low-friction retraction and telescoping even with eccentric loading.
A special electric motor with hollow shaft the rotational movement of which is transformed into a linear movement by a lead screw/nut system, is used as drive. The linear drive is self-locking in every position and is designed for intermittent operation.
The motor winding is prevented from overheating by a thermal protection device which interrupts on overheating and switches back on after the motor cools down. The stroke is limited by built-in limit switches in the end positions.
The TELEMAG telescope is controlled either electrically through external switches or by the specially developed pneumatic safety control elements.

The TELEMAG telescopes are available in two versions:
- 2-section telescope
- 3-section telescope: lower retracted height for the same stroke or larger stroke at the same retracted height respectively, higher eccentric loading.

The TELEMAG telescopes are designed for push operation.
In applications with pull loads, a factory modification of the auxiliary plate is required.

Electrical connection

The mains connection and control can be provided alternatively above or below with the plug supplied according to the diagram. 3 x 0.75 mm cables are led through the TELEMAG telescopic column.
In the case of mains supply from above, it is essential that the bottom connection socket is locked with the sealing piece. The plug and sealing piece must snap in audibly.
Electrical connection cables must be run and fastened so that damage due to crushing, bending or tension is not possible.

a) Electrical control

The TELEMAG telescopes (WAS / WDS) are controlled by operating elements provided by the customer according to the diagram. Several drives must never be connected in parallel.
A separate switch-over contact must be provided for each drive and in each case only one switch-over and one mains connection version may be used. The switch-over contacts L1 and L2 must be mutually interlocked.

b) Pneumatic control

The TELEMAG telescopes (WAK/WDK) are controlled without current by the special pneumatic operating elements. The pneumatic line can be max. 1.5 m long.
All electrical control elements are installed protected in the TELEMAG telescope. Thus a very high degree of safety is achieved for the operating personnel.
Please refer to Info 530E, 2945 for operating elements.

Installation

The TELEMAG drive is fastened to the structural elements to be moved at the top and bottom of the telescopic column by means of 4 M5 bolts each (strength class 10.9), tightening torque 5 Nm. The thread reach is at least 15 mm. In the 3-section version, the bottom of the telescopic column is fastened by means of 4 M6 bolts each (strength class 10.9), tightening torque 9 Nm. The telescopic column can be installed either directly or with 10 mm thick aluminium mounting plates available as accessories. The technical notes must be observed on commissioning.
Applications which do not exclude danger to persons must be provided with guards by the user.

Note:
- If no mounting plates are used, the auxiliary plates on the bottom of the TELEMAG must be supported accordingly. (Minimum plate thickness 10 mm)
- If you want to use your own mounting plates, drill these according to the dimension diagram. (Minimum plate thickness 11 mm)
- The auxiliary plate is bolted on and must not be removed.
- In the case of eccentric loading, you must observe the stroke – force diagram or consult the factory.
- There is a risk of injury by crushing between the mounting plate and tube end in the retracted end position.

Info-number: 530E 1610/6.97

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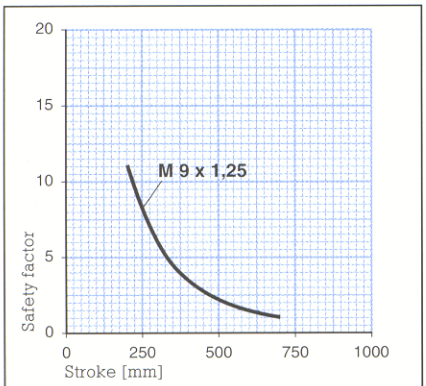
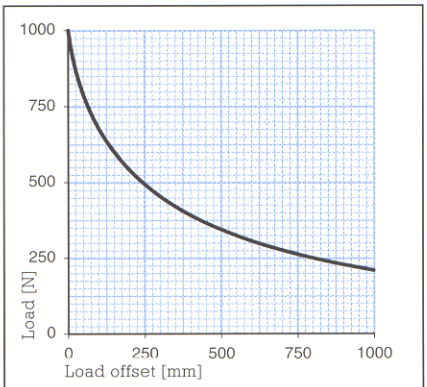
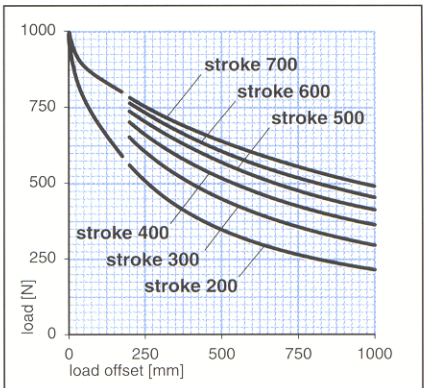


Lead screw buckling

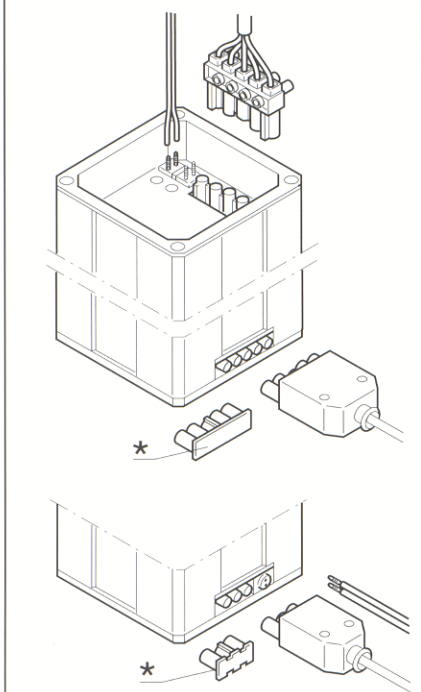


Load diagram 2-section

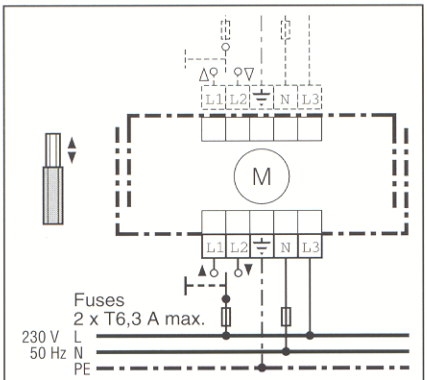


Load diagram 3-section

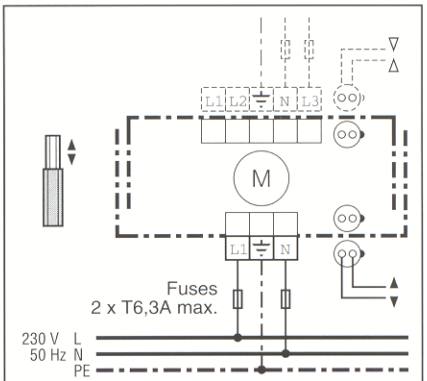
For top connection: You must absolutely lock the bottom connection socket with the sealing piece *! The plug or sealing piece must snap in audibly.



Connection, electric/pneumatic



Connection, electrical control



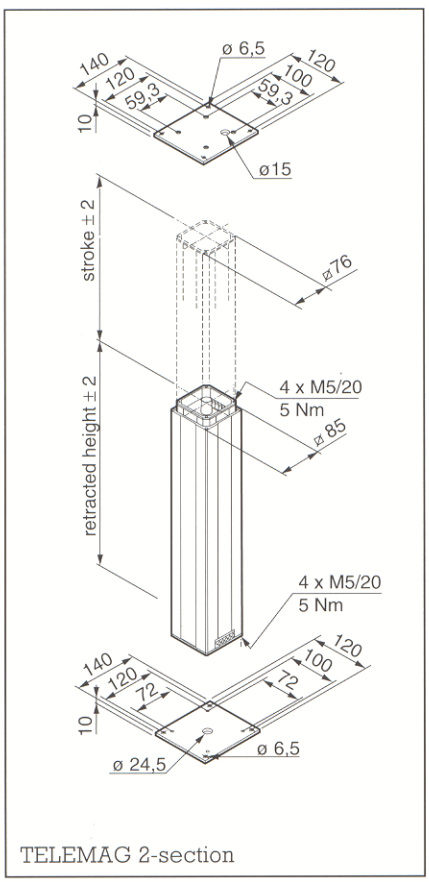
Connection, pneumatic control

Maintenance

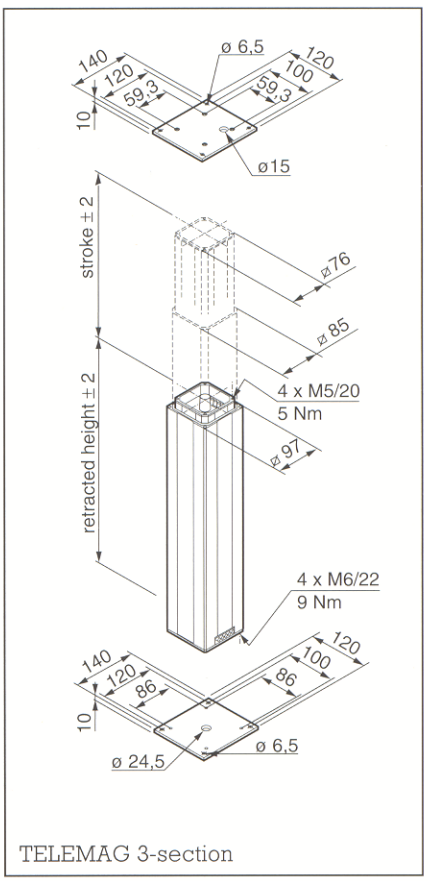
The sliding surfaces of the telescopic tubes can be lubricated with BP Energol GR-XP 220 (150) special lubricant.
Defective drives may be repaired only in our factory.

Accessories

Pulse shaft encoder, signal contacts, special stroke settings, special voltages (UL version), pneumatic control switch, mounting plates etc. are available on request, refer to the type key.



TELEMAG 2-section



TELEMAG 3-section

Subject to technical modifications.
The manufacturer / user must check that the products of Magnetic are compatible with his application.

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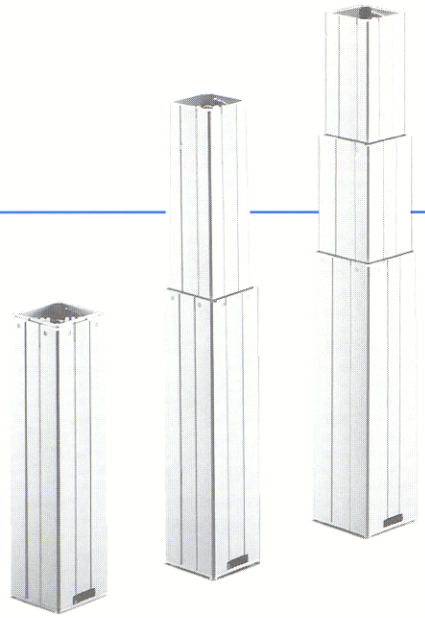

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The Linear Drives Company™

TELEMAG
telescopic drives

THC 8A . . .

Technical data:	Type	THC 8AWAS	THC 8AWAK	THC 8AWDS	THC 8AWDK
Push force max. (pull optional)	N	1800	1800	1800	1800
Speed	mm/s	12	12	12	12
Stroke	mm	200-700	200-700	230-700	230-700
Retracted height	mm	355-855	355-855	290-760	290-760
Telescopic column version		2-section	2-section	3-section	3-section
Voltage	V/50 Hz	230	230	230	230
Power consumption	W	500	500	500	500
Current consumption	A	2.2	2.2	2.2	2.2
Duty cycle: intermittent operation	Int.	1 min./27 min.[1)]	1 min./27 min.[1)]	1 min./27 min.[1)]	1 min./27 min.[1)]
Duty cycle: short-time operation	KB	2 min.[1)]	2 min.[1)]	2 min.[1)]	2 min.[1)]
Ambient temperature °C		+10°/+40°	+10°/+40°	+10°/+40°	+10°/+40°
Degree of protection	IP	30	30	30	30
Type of control		electrical	pneumatic	electrical	pneumatic
Weight	kg	7.9 - 13.5	7.9 - 13.5	8.6 - 17.5	8.6 - 17.5

[1)] measured by 253 V

Description

The TELEMAG telescopes consist of two or three square aluminium sections inserted in one another which are telescoped and retracted by an integrated linear drive.
The outer surface of the special aluminium sections is dull anodized. The slideways being free of play ensure low-friction retraction and telescoping even with eccentric loading.
A special electric motor with hollow shaft the rotational movement of which is transformed into a linear movement by a lead screw/nut system, is used as drive. The linear drive is self-locking in every position and is designed for intermittent operation.
The motor winding is prevented from overheating by a thermal protection device which interrupts on overheating and switches back on after the motor cools down. The stroke is limited by built-in limit switches in the end positions.
The TELEMAG telescope is controlled either electrically through external switches or by the specially developed pneumatic safety control elements.

The TELEMAG telescopes are available in two versions:
- 2-section telescope
- 3-section telescope: lower retracted height for the same stroke or larger stroke at the same retracted height respectively, higher eccentric loading.

The TELEMAG telescopes are designed for push operation.
In applications with pull loads, a factory modification of the auxiliary plate is required.

Electrical connection

The mains connection and control can be provided alternatively above or below with the plug supplied according to the diagram. 3 x 0.75 mm cables are led through the TELEMAG telescopic column.
In the case of mains supply from above, it is essential that the bottom connection socket is locked with the sealing piece. The plug and sealing piece must snap in audibly.
Electrical connection cables must be run and fastened so that damage due to crushing, bending or tension is not possible.

a) Electrical control

The TELEMAG telescopes (WAS / WDS) are controlled by operating elements provided by the customer according to the diagram. Several drives must never be connected in parallel.
A separate switch-over contact must be provided for each drive and in each case only one switch-over and one mains connection version may be used. The switch-over contacts L1 and L2 must be mutually interlocked.

b) Pneumatic control

The TELEMAG telescopes (WAK / WDK) are controlled without current by the special pneumatic operating elements. The pneumatic line can be max. 1.5 m long.
All electrical control elements are installed protected in the TELEMAG telescope. Thus a very high degree of safety is achieved for the operating personnel.
Please refer to Info 530E, 2945 for operating elements.

Installation

The TELEMAG drive is fastened to the structural elements to be moved at the top and bottom of the telescopic column by means of 4 M6 bolts each (strength class 10.9), tightening torque 9 Nm. The thread reach is at least 20 mm.
The telescopic column can be installed either directly or with 10 mm thick aluminium mounting plates available as accessories.
The technical notes must be observed on commissioning.
Applications which do not exclude danger to persons must be provided with guards by the user.

Note:
- If no mounting plates are used, the auxiliary plates on the bottom of the TELEMAG must be supported accordingly. (Minimum plate thickness 10 mm)
- If you want to use your own mounting plates, drill these according to the dimension diagram. (Minimum plate thickness 10 mm)
- The auxiliary plate is bolted on and must not be removed.
- In the case of eccentric loading, you must observe the stroke - force diagram or consult the factory.
- There is a risk of injury by crushing between the mounting plate and tube end in the retracted end position.

Info number: 530E 1620/6.97

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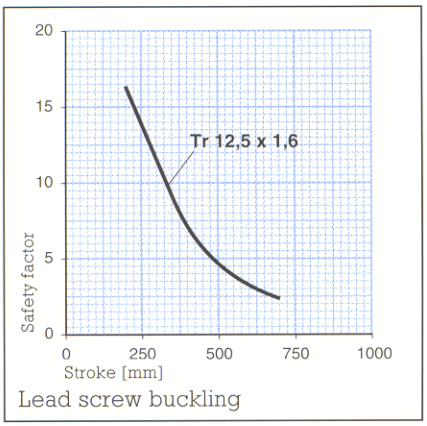
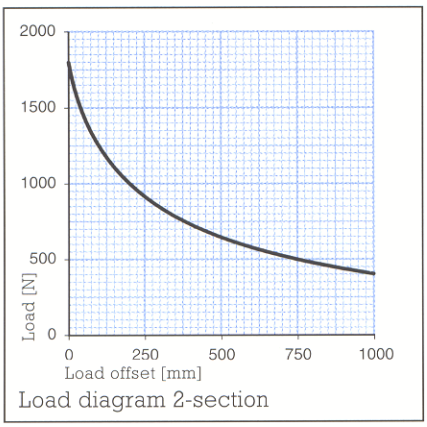
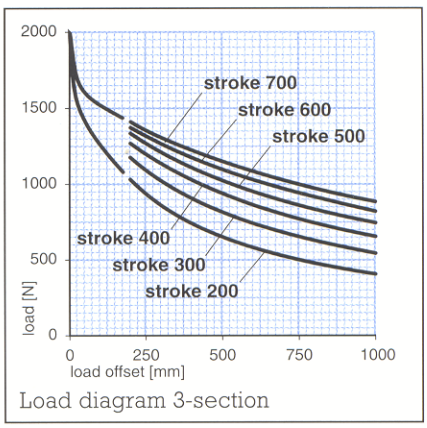


Lead screw buckling

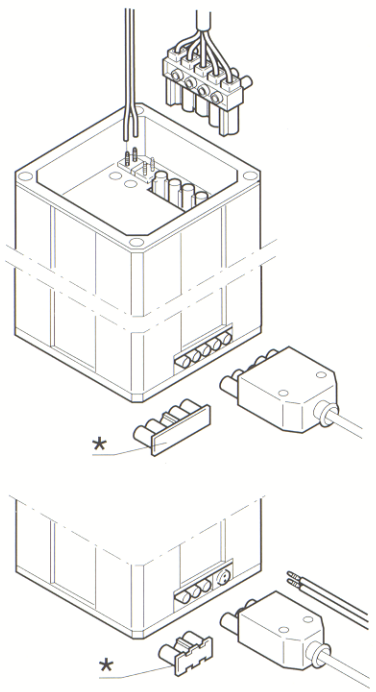


Load diagram 2-section

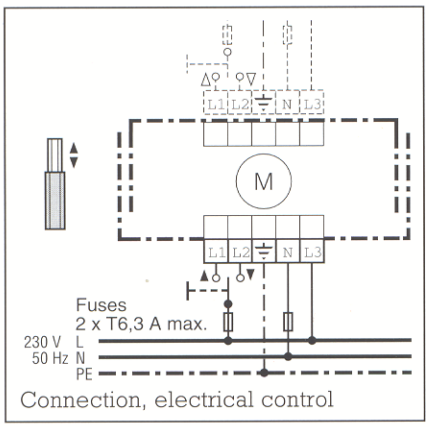


Load diagram 3-section

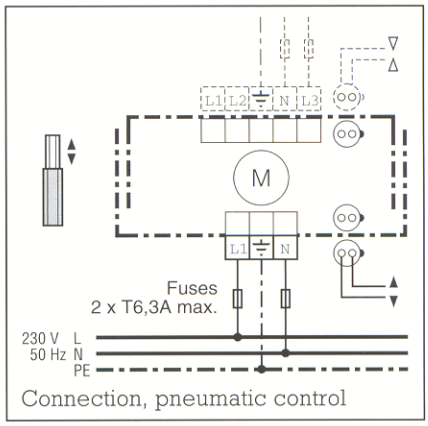
For top connection: You must absolutely lock the bottom connection socket with the sealing piece *! The plug or sealing piece must snap in audibly.



Connection, electric/pneumatic



Connection, electrical control



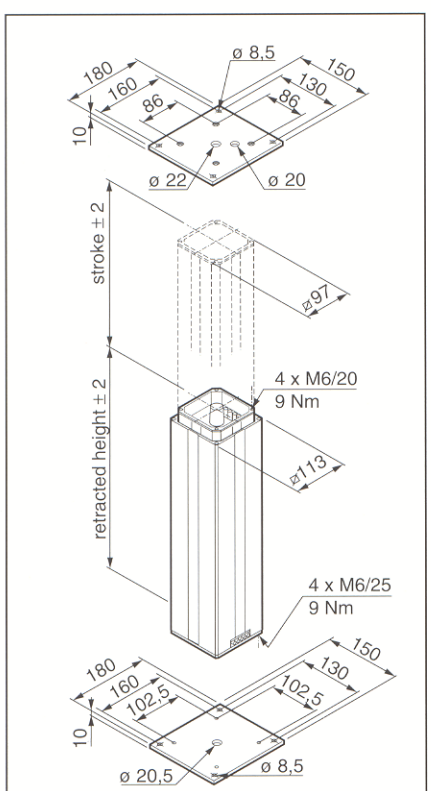
Connection, pneumatic control

Maintenance

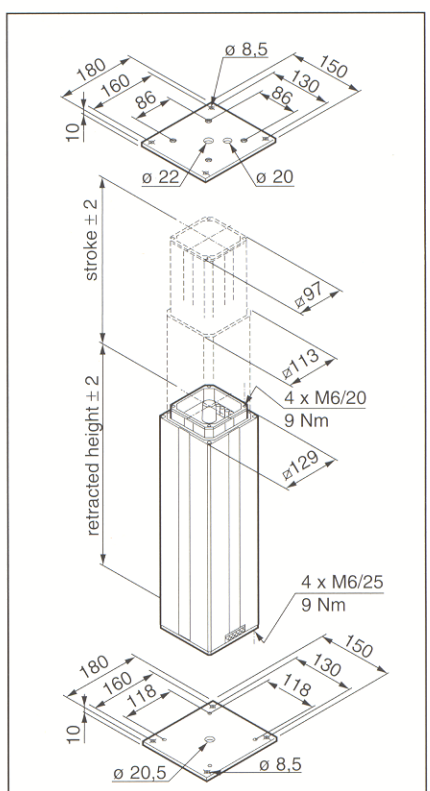
The sliding surfaces of the telescopic tubes can be lubricated with BP Energol GR-XP 220 (150) special lubricant.
Defective drives may be repaired only in our factory.

Accessories

Pulse shaft encoder, potentiometers, signal contacts, special stroke settings, special voltages (UL version), pneumatic control switch, mounting plates etc. are available on request, refer to the type key.



TELEMAG 2-section



TELEMAG 3-section

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The manufacturer / user must check that the products of Magnetic are compatible with his application.

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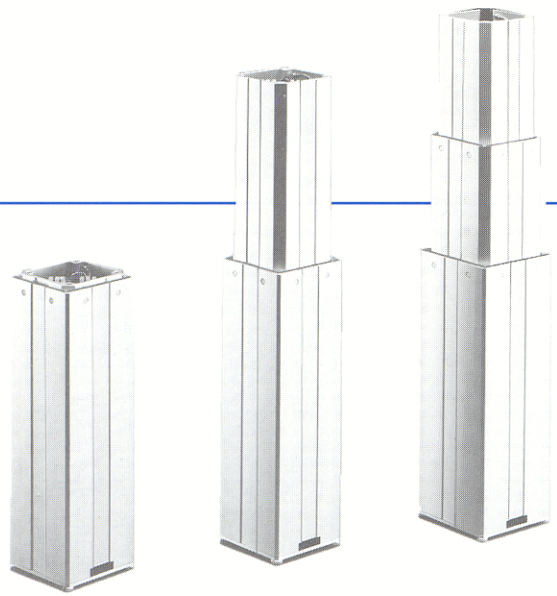

magnetic
The Linear Drives Company™

TELEMAG
telescopic drives

TLC 12Z . . .

Technical data:	Type	TLC 12ZWAS	TLC 12ZWAK	TLC 12ZWDS	TLC 12ZWDK
Push force max. (pull optional)	N	4000	4000	4000	4000
Speed	mm/s	11	11	11	11
Stroke	mm	200-700	200-700	255-700	255-700
Retracted height	mm	375-875	375-875	315-760	315-760
Telescopic column version		2-section	2-section	3-section	3-section
Voltage	V/50 Hz	230	230	230	230
Power consumption	W	890	890	890	890
Current consumption	A	4.1	4.1	4.1	4.1
Duty cycle: intermittent operation	Int.	1 min./37 min.[1)]	1 min./37 min.[1)]	1 min./37 min.[1)]	1 min./37 min.[1)]
Duty cycle: short-time operation	KB	2 min.[1)]	2 min.[1)]	2 min.[1)]	2 min.[1)]
Ambient temperature °C		+10°/+40°	+10°/+40°	+10°/+40°	+10°/+40°
Degree of protection	IP	30	30	30	30
Type of control		electrical	pneumatic	electrical	pneumatic
Weight	kg	15.2 - 24.5	15.2 - 24.5	18.3 - 30.5	18.3 - 30.5

[1)] measured by 253 V

Description

The TELEMAG telescopes consist of two or three square aluminium sections inserted in one another which are telescoped and retracted by an integrated linear drive.
The outer surface of the special aluminium sections is dull anodized. The slideways being free of play ensure low-friction retraction and telescoping even with eccentric loading.
A special electric motor with hollow shaft the rotational movement of which is transformed into a linear movement by a lead screw/nut system, is used as drive. The linear drive is self-locking in every position and is designed for intermittent operation.
The motor winding is prevented from overheating by a thermal protection device which interrupts on overheating and switches back on after the motor cools down. The stroke is limited by built-in limit switches in the end positions.
The TELEMAG telescope is controlled either electrically through external switches or by the specially developed pneumatic safety control elements.

The TELEMAG telescopes are available in two versions:
- 2-section telescope
- 3-section telescope: lower retracted height for the same stroke or larger stroke at the same retracted height respectively, higher eccentric loading.

The TELEMAG telescopes are designed for push operation.
In applications with pull loads, a factory modification of the auxiliary plate is required.

Electrical connection

The mains connection and control can be provided alternatively above or below with the plug supplied according to the diagram. 3 x 0.75 mm cables are led through the TELEMAG telescopic column.
In the case of mains supply from above, it is essential that the bottom connection socket is locked with the sealing piece. The plug and sealing piece must snap in audibly.
Electrical connection cables must be run and fastened so that damage due to crushing, bending or tension is not possible.

a) Electrical control

The TELEMAG telescopes (WAS / WDS) are controlled by operating elements provided by the customer according to the diagram. Several drives must never be connected in parallel.
A separate switch-over contact must be provided for each drive and in each case only one switch-over and one mains connection version may be used. The switch-over contacts L1 and L2 must be mutually interlocked.

b) Pneumatic control

The TELEMAG telescopes (WAK / WDK) are controlled without current by the special pneumatic operating elements. The pneumatic line can be max. 1.5 m long.
All electrical control elements are installed protected in the TELEMAG telescope. Thus a very high degree of safety is achieved for the operating personnel.
Please refer to Info 530E, 2945 for operating elements.

Installation

The TELEMAG drive is fastened to the structural elements to be moved at the top and bottom of the telescopic column by means of 4 M10 bolts each (strength class 10.9), tightening torque 40 Nm. The thread reach is at least 25 mm.
The telescopic column can be installed either directly or with 15 mm thick aluminium mounting plates available as accessories.
The technical notes must be observed on commissioning.
Applications which do not exclude danger to persons must be provided with guards by the user.

Note:
- If no mounting plates are used, the auxiliary plates on the bottom of the TELEMAG must be supported accordingly. (Minimum plate thickness 15 mm)
- If you want to use your own mounting plates, drill these according to the dimension diagram. (Minimum plate thickness 15 mm)
- The auxiliary plate is bolted on and must not be removed.
- In the case of eccentric loading, you must observe the stroke - force diagram or consult the factory.
- There is a risk of injury by crushing between the mounting plate and tube end in the retracted end position.

Info number: 530E 1630/6.97

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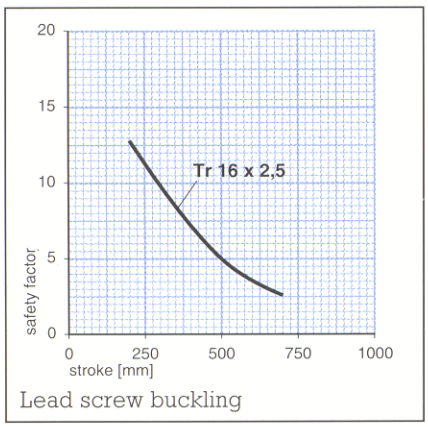
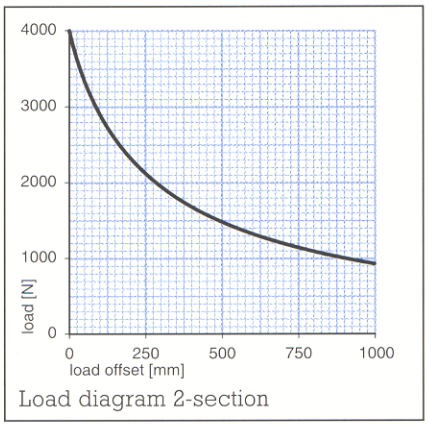
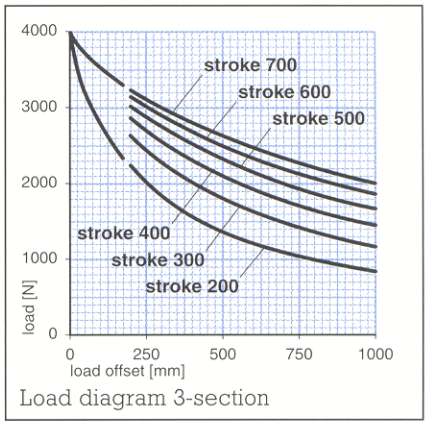


Lead screw buckling

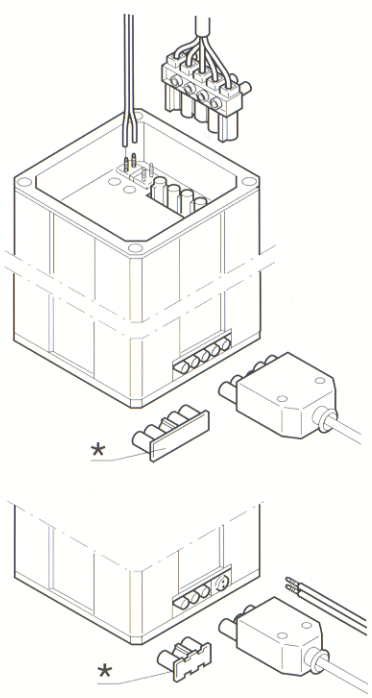


Load diagram 2-section

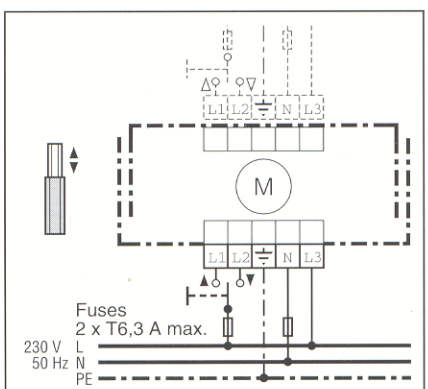


Load diagram 3-section

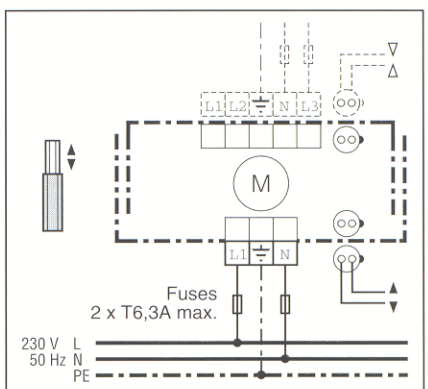
For top connection: You must absolutely lock the bottom connection socket with the sealing piece *! The plug or sealing piece must snap in audibly.



Connection, electric/pneumatic



Connection, electrical control



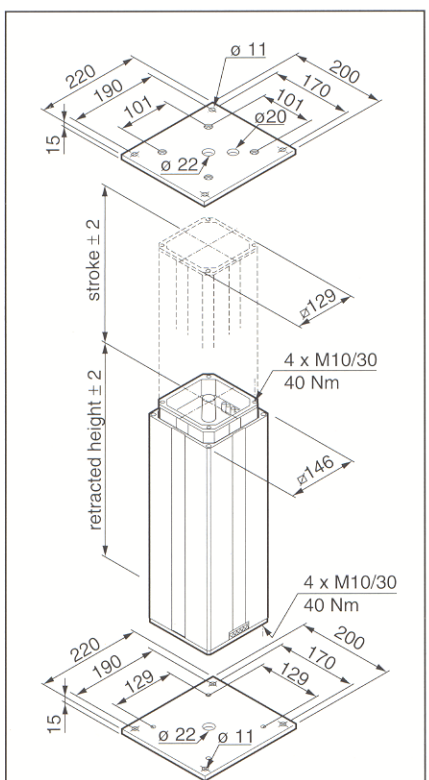
Connection, pneumatic control

Maintenance

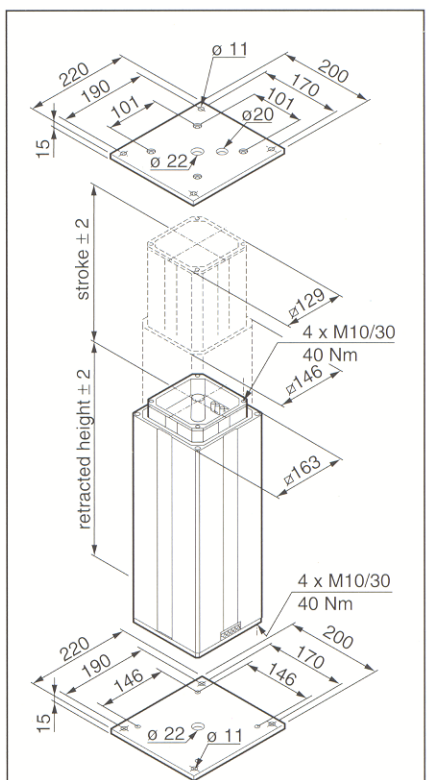
The sliding surfaces of the telescopic tubes can be lubricated with BP Energol GR-XP 220 (150) special lubricant.
Defective drives may be repaired only in our factory.

Accessories

Pulse encoder, potentiometers, signal contacts, special stroke settings, special voltages (UL version), pneumatic control switch, mounting plates etc. are available on request, refer to the type key.



TELEMAG 2-section



TELEMAG 3-section

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telescopic drives TELEMAG 24 V DC

THG. B / C ..

Technical data :	Type	THG1.-B	THG1.-C
Push force max.	N	2000	1000
Speed	mm/s	5,5	12
Stroke	mm	200-700	200-700
Retracted hight 2-section	mm	470-970	470-970
Retracted hight 3-section	mm	380-880	380-880
Voltage	V DC	24	24
Current consumption	A	5	5
Duty cycle: intermittent operation	Int.	1 min./9 min.	1 min./9 min.
Duty cycle: short time operation	KB	2,5 min.	2,5 min.
Ambient temperature	°C	+10/+40	+10/+40
Degree of protection		IP30	IP30
Weight	kg	8-14	8-14
Design of telescopic column		2- or 3-section acc. to type key	2- or 3-section acc. to type key

Description

The TELEMAG telescopes consist of two or three square aluminium sections inserted in one another which are telescoped and retracted by an integrated linear drive. The outer surface of the special aluminium sections is dull anodized. The slide ways which are free of play ensure low-friction retraction and telescoping even with eccentric loading. A special direct current motor with worm gearing, the rotational movement of which is transformed into a linear movement by a lead screw / nut System, is used as drive. The linear drive is self~locking in every position and is designed for intermittent operation. The drive moves into the end positions against stops and does not have limit switches. The mains supply and control are made through the KOM or MCU control unit and control elements separately developed for this. The drives are protected by the control unit against overload by an current cut-off circuit.
if the drive is not operated with a KOM or MCU control unit but with an extemal control unit or batteries, then the TELEMAG must be equipped with a integrated or external current cut-off board, since otherwise the drive could be damaged.
In operation with overload or on exceeding the specified duty cycle, the drive can be destroyed because of overheating.
The TELEMAG telescopes are available in two versions: 2-section telescope and 3-section telescope: lower retracted height at the same stroke or larger stroke at the same retracted height respectively, higher eccentric bading.
The TELEMAG telescopes are designed for push operation.

Electrical connection

The electrical connection is made simply with thejack plug on the KOM control unit or on the MCU mobile control unit. Since the telescopic drives have no limit switches, the maximum permissible current is monitored by the control unit and is switched off if necessary. Thus an overload is not possible when a KOM or MCU control unit is used. Furthermore, it is possible to operate up to two TELEMAG telescopic drives independently of one another with one control unit. An in-step control must be used for parallel running applications, special TELEMAG with pulse encoders are available for this.
Electrical connection or supply cables must be run and fastened so that damage due to crushing, bending or tension is not possible. A long supply cable must have a sufficiently large cross-section to prevent a possible voltage drop.

Control

A large number of modern elegant handheld or foot switches, which have been developed especially for the TELEMAG, are available for controlling the TELEMAG direct current drives, please refer to 530E, 2940.

Installation

The TELEMAG drive is fastened to the structural elements to be moved at the top and bottom of the telescopic column by means of 4 M6 bolts each (strength class 10.9), tightening torque 9 Nm. The thread reach is at least 25 mm.
The telescopic column can be installed either directly or with 10 mm thick aluminium mounting plates available as accessories.
The technical notes must be observed on commissioning.
Applications which do not exclude danger to persons must be provided with guards by the user.

Note:

- if no mounting plates are used, the auxiliary plates on the bottom of the TELEMAG must be supported accordingly. (Minimum plate thickness 10 mm)
- If you want to use your own mounting plates, drill these according to the dimension diagram. (Minimum plate thickness 10 mm)
- Both auxiliary plates are bolted on and must not be removed.
- In the case of eccentric loading, you must observe the stroke - force diagram or consult the factory.
- There is a risk of injury by crushing between the mounting plate and tube end in the retracted end position.

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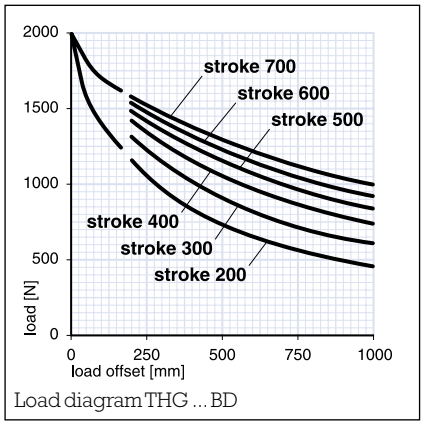
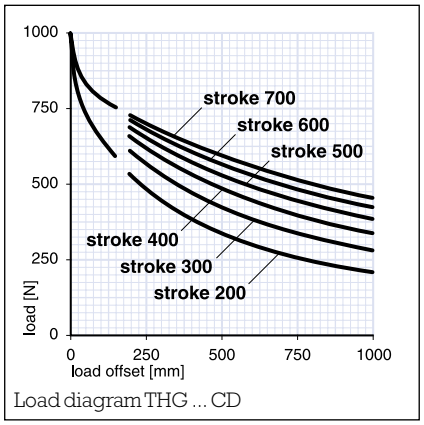
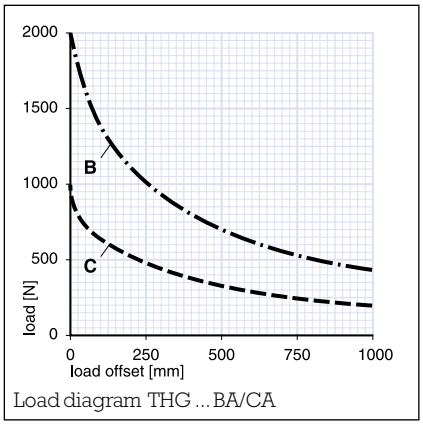


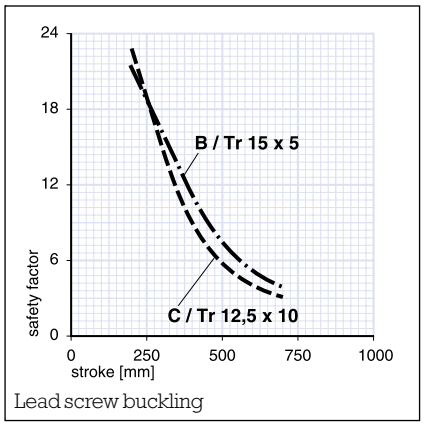
Load diagram THG ... BD



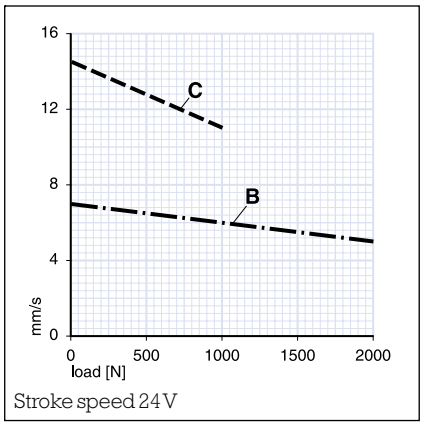
Load diagram THG ... CD



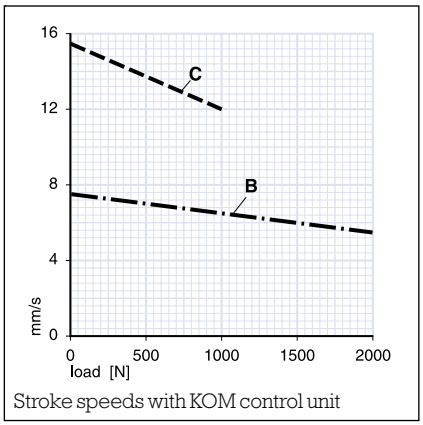
Load diagram THG ... BA/CA



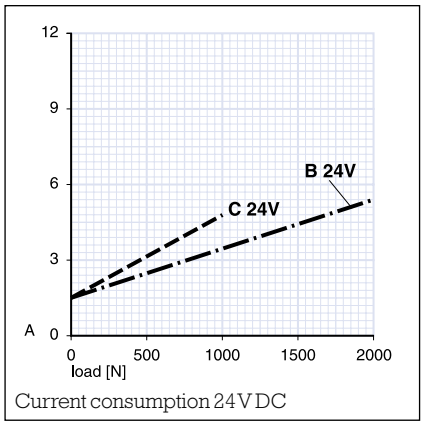
Lead screw buckling



Stroke speed 24 V



Stroke speeds with KOM control unit



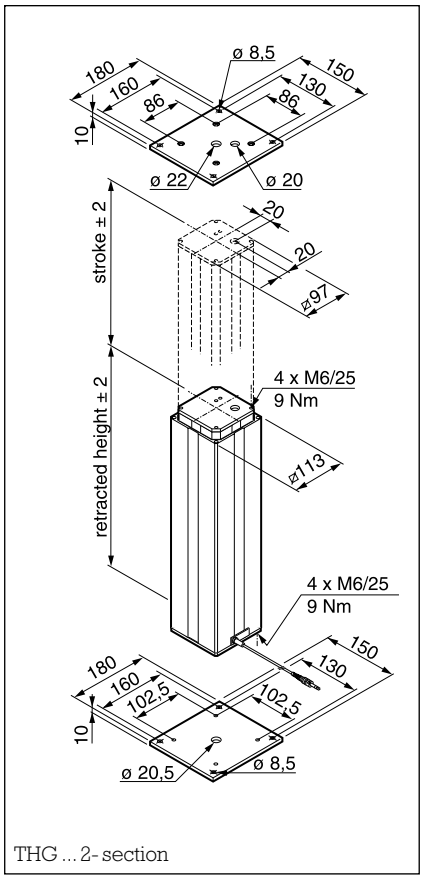
Current consumption 24 V DC

Maintenance

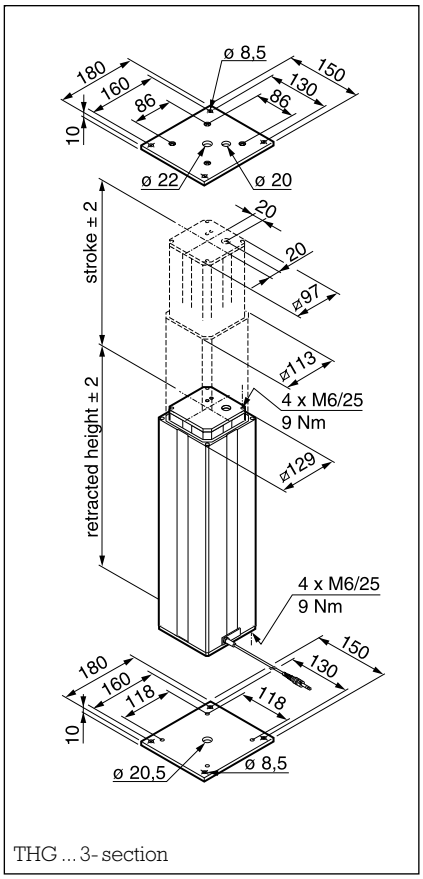
The sliding surfaces of the telescopic tubes can be lubricated with BP Energol GR-XP 220 (150) special lubricant. Defective drives may be repaired only in our factory.

Accessories

Pulse encoder (Hall sensor), potentiometer (only on 3-section version), special stroke settings, mounting plates etc. are available on request, refer to the type key.



THG ... 2- section



THG ... 3- section

Subject to technical modifications.
The manufactorer / user must check that the products of Magnetic are compatible with his application

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magnetic
The Linear Drives Company™

telescopic drives TELEMAG 24 V DC

TLG. A / B / C ..

Technical data :	Type	TLG1.-A	TLG1.-B	TLG1.-C
Push force max.	N	4000	2500	1500
Speed	mm/s	10	13	25
Stroke	mm	200-700	200-700	200-700
Retracted hight 2-section	mm	380-880	380-880	380-880
Retracted hight 3-section	mm	380-880	380-880	380-880
Voltage	V DC	24	24	24
Current consumption	A	6,5	6,5	6,5
Duty cycle: intermittent operation	Int.	1 min./9 min.	1 min./9 min.	1 min./9 min.
Duty cycle: short time operation	KB	2,5 min.	2,5 min.	2,5 min.
Ambient temperature	°C	+10/+40	+10/+40	+10/+40
Degree of protection		IP30	IP30	IP30
Weight	kg	15-30	15-30	15-30
Design of telescopic column		2- or 3-section acc. to type key	2- or 3-section acc. to type keyl	2- or 3-section acc. to type key

Description

The TELEMAG telescopes consist of two or three square aluminium sections inserted in one another which are telescoped and retracted by an integrated linear drive.
The outer surface of the special aluminium sections is dull anodized. The slide ways which are free of play ensure low-friction retraction and telescoping even with eccentric loading. A special direct current motor with worm gearing, the rotational movement of which is transformed into a linear movement by a lead screw / nut System, is used as drive. The linear drive is self~locking in every position and is designed for intermittent operation. The drive moves into the end positions against stops and does not have limit switches. The mains supply and control are made through the KOM or MCU control unit and control elements separately developed for this. The drives are protected by the control unit against overload by an current cut-off circuit.
if the drive is not operated with a KOM or MCU control unit but with an extemal control unit or batteries, then the TELEMAG must be equipped with a integrated or external current cut-off board, since otherwise the drive could be damaged.
In operation with overload or on exceeding the specified duty cycle, the drive can be destroyed because of overheating.
The TELEMAG telescopes are available in two versions:
2-section telescope and 3-section telescope: higher eccentric bading.

The TELEMAG telescopes are designed for push operation.

Electrical connection

The electrical connection is made simply with thejack plug on the KOM control unit or on the MCU mobile control unit. Since the telescopic drives have no limit switches, the maximum permissible current is monitored by the control unit and is switched off if necessary. Thus an overload is not possible when a KOM or MCU control unit is used.
Furthermore, it is possible to operate up to two TELEMAG telescopic drives independently of one another with one control unit. An in-step control must be used for parallel running applications, special TELEMAG with pulse encoders are available for this.
Electrical connection or supply cables must be run and fastened so that damage due to crushing, bending or tension is not possible. A long supply cable must have a sufficiently large cross-section to prevent a possible voltage drop.

Control

A large number of modern elegant handheld or foot switches, which have been developed especially for the TELEMAG, are available for controlling the TELEMAG direct current drives, please refer to 530E, 2940.

Installation

The TELEMAG drive is fastened to the structural elements to be moved at the top and bottom of the telescopic column by means of 4 M1O bolts each (strength class 10.9), tightening torque 40 Nm. The thread reach is at least 30 mm.
The telescopic column can be installed either directly or with 15 mm thick aluminium mounting plates available as accessories.
The technical notes must be observed on commissioning.
Applications which do not exclude danger to persons must be provided with guards by the user.

Note:

- if no mounting plates are used, the auxiliary plates on the bottom of the TELEMAG must be supported accordingly. (Minimum plate thickness 15 mm)
- If you want to use your own mounting plates, drill these according to the dimension diagram. (Minimum plate thickness 15 mm)
- Both auxiliary plates are bolted on and must not be removed.
- In the case of eccentric loading, you must observe the stroke - force diagram or consult the factory.
- There is a risk of injury by crushing between the mounting plate and tube end in the retracted end position.

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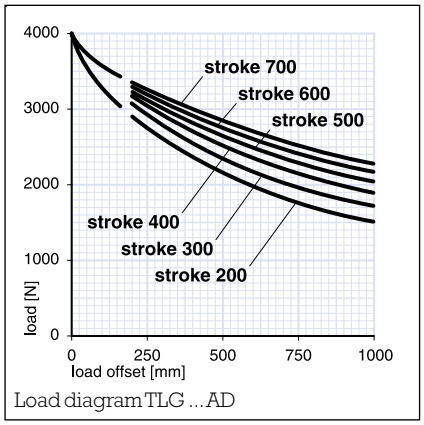
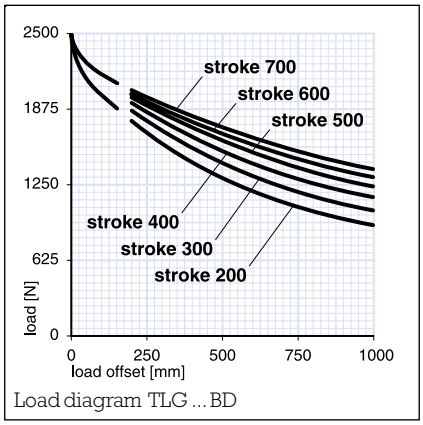
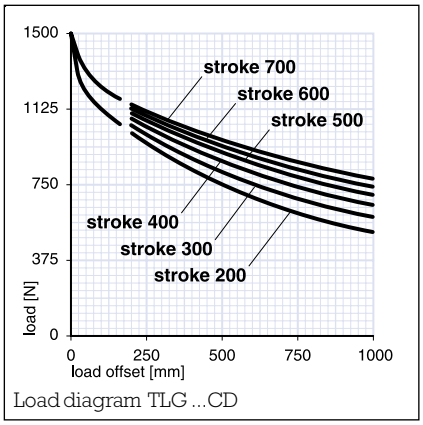


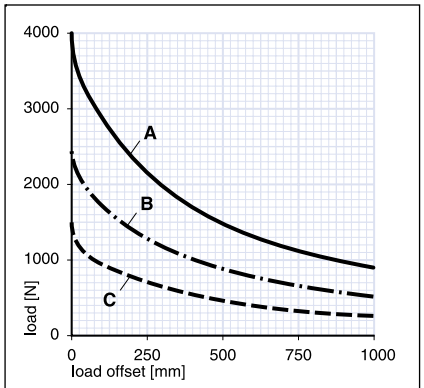
Load diagram TLG ... AD



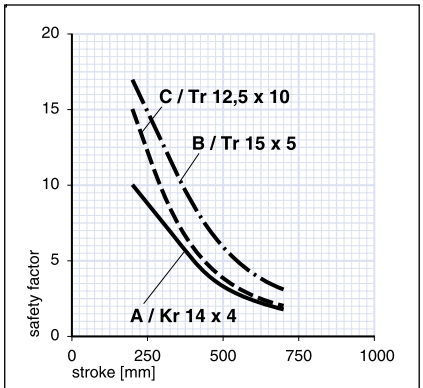
Load diagram TLG ... BD



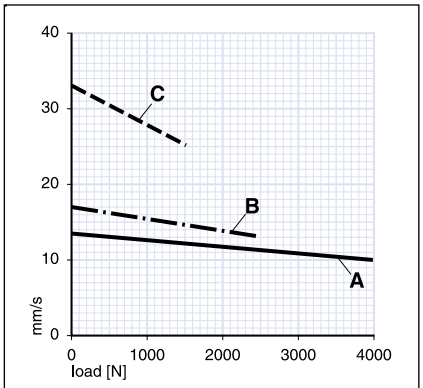
Load diagram TLG ... CD



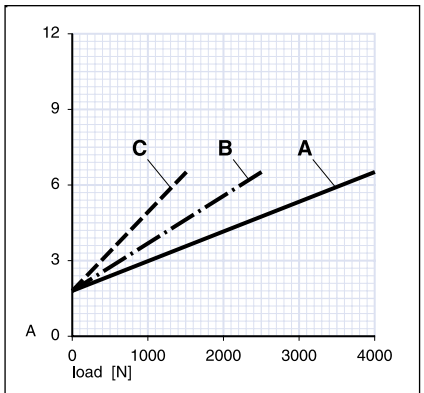
Load diagram TLG...AA/BA/CA



Lead screw buckling



Stroke speed 24 V DC



Current consumption 24 V DC

Maintenance

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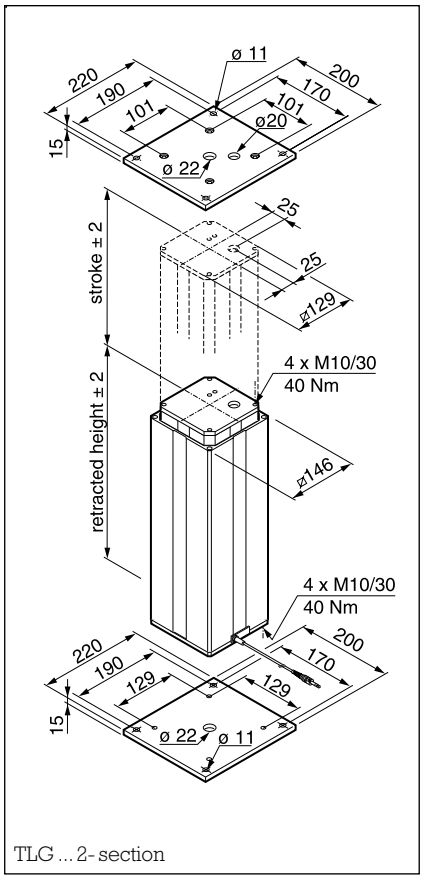
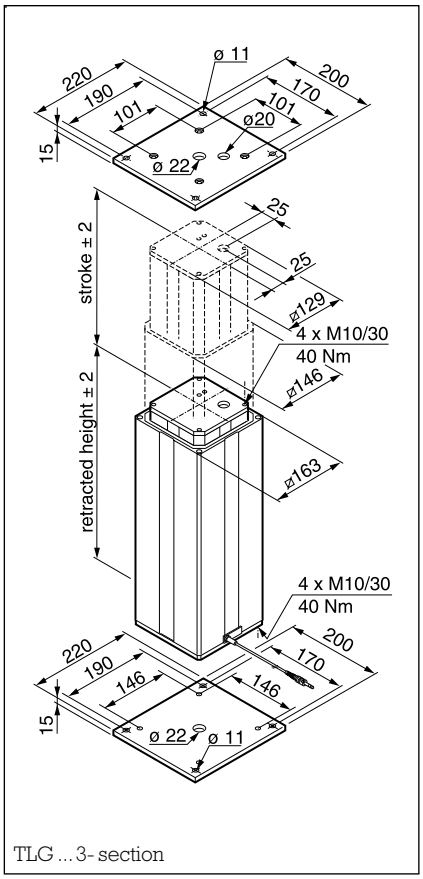


TLG ... 2- section



TLG ... 3- section

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TELEMAG

TLT dual DC-motor telescoping column
Best ratio of stroke to retracted height

magnetic
The Linear Drives Company™

Dual Motor Telescoping Column - Telemag TLT

Complimenting the already known product range of Magnetic telescoping columns in AC/DC technology, Magnetic proudly presents the new dual motor TELEMAG TLT.

These powerful and fast telescoping columns are equipped with two spindle motors. The dual motor TLT is available with nominal loads up to 4000 N and a push speed up to 42 mm/sec.

The TELEMAG TLT is extremely well suited for applications with small retraced lenghts and great push forces. The new control unit KOM3T is custom made for the TLT and is equipped with a current limit board to stop the drive, if necessary, in the end positions as well as at excessiv loads. The actuators are operated by the wide range of remotes from our sales program.

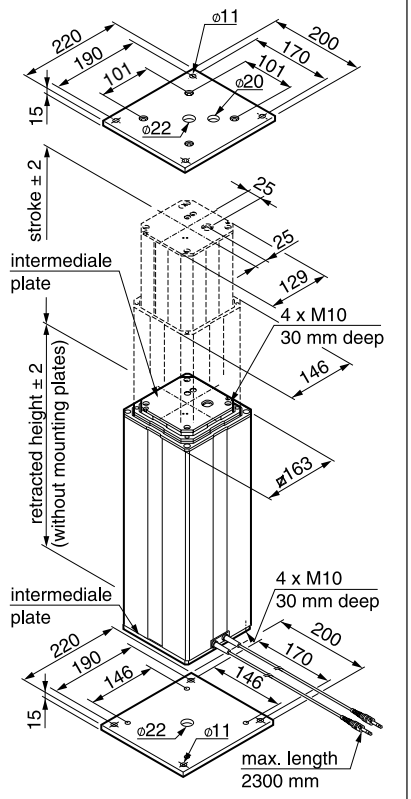
TELEMAG telescoping columns have successfully proven their worth in medical, furniture, ergonomic as well as in industrial applications during years of use. For further information, please do not hesitate to contact us.

Accessories and options:
- hall encoder 8 pulses/rev.
- integrated current cut-off
- mounting plates

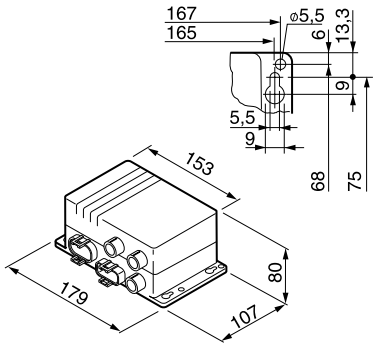
Subject to technical modifications.

Technical data:	Type	TLT10-C1	TLT10-B1	TLT10-C2	TLT10-A1	TLT10-A2*
Push force (max.)	N	1000	2000	2000	3000	4000
Speed	mm/s	25 - 36	13-19	25-42	11 - 16	13 - 19
Stroke	mm	300 - 700	300 - 700	300 - 700	300 - 700	300 - 700
Retracted lengths 3-section	mm	320 - 520	320-520	390-590	320 - 520	390 - 590
Voltage	VDC	24	24	24	24	24
Current consumption	A	2 x 4A	2x4A	2x4,5A	2x3,5A	2x3,5A
Duty cycle: intermittent operation	Int.	1 / 9	1 / 9	1 / 9	1 / 9	1 / 9
Ambient temperature	oC	+ 10 / + 40	+ 10 / + 40	+ 10 / + 40	+ 10 / + 40	+ 10 / + 40
Protection class	IP	40	40	40	40	40
Weight	kg	15 - 30	15 - 30	15 - 30	15 - 30	15 - 30

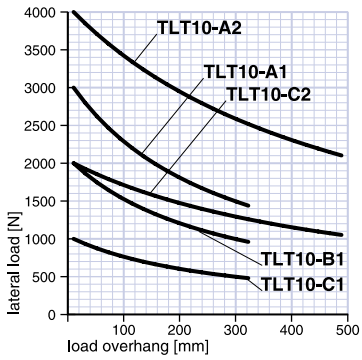
1 mm ≙ 0,03937 inch
*A2 units have a three times static safety factor for strokes 600 & 700 mm



TELEMAG 3-section



Control unit KOM3T



Lateral load diagram

Stroke and retracted lengths:

Type	Stroke mm/inch	Retracted length mm/inch
TLT1.-.13..	300/11,81	320/12,60
TLT1.-.14..	400/15,75	370/14,57
TLT1.-.15..	500/19,69	420/16,54
TLT1.-.16..	600/23,62	470/18,51
TLT1.-.17..	700/27,56	520/20,48

Type	Stroke mm/inch	Retracted length mm/inch
TLT1.-.23..	300/11,81	390/15,35
TLT1.-.24..	400/15,75	440/17,32
TLT1.-.25..	500/19,69	490/19,29
TLT1.-.26..	600/23,62	540/21,26
TLT1.-.27..	700/27,56	590/23,23

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The Linear Drives Company™

530E.1670/0.98

www.cytecsystems.de

CyLift

Multifunctional lifting column

CyLift is a telescopic lifting element which is either fast, quiet, has a high positioning accuracy or sheer strength depending on the type of drive. It can be operated hydraulically, pneumatically or with electrical power.
It can be used in an almost unlimited number of applications. Whereas complex construction was needed in the past for height adjustable bases, this single element (ready to install) now meets all requirements. Much simpler construction is possible not only in the traditional fields of lifting technology, but also in marginal sectors such as medical engineering, laboratory equipment and ergonomics.

Key: +++ very good ++ good + satisfactory - not recommended	**Versorgungsarten**			
	Footpump	**Hydraulic**	**Pneumatic**	**Electric**
High lifting power	+++	+++	+	+
Speed	+	+	+++	-
Continuous duty	-	+++	+++	-
Positionability	+	+	+++	+
Mobility	+++	-	-	++(24V)
Load bearing capacity	+++	+++	+++	+++
Explosion protection	+++	+	+++	-

CyLift

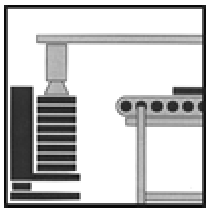
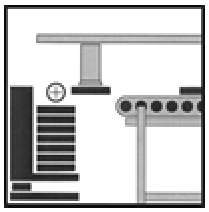
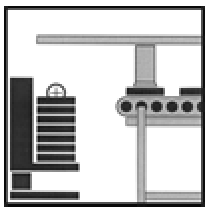
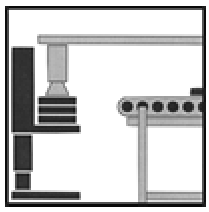
Function

The column consists of a number of telescopic square aluminum tubes. The guide elements, a teflon-like material that also can be supplied in a bronze-teflon design for extreme lateral forces, guarantee the trouble-free slide of the profiles.

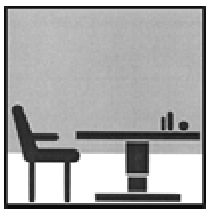
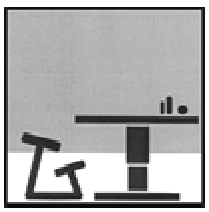
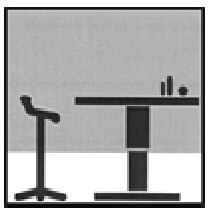
Series of drive	
pneumatic	This version can be operated by a standard double acting cylinder, a pneumatic cylinder with an internal positive locking device (**CyLock**) or a pneumatic cylinder with an internal braking device (**CyStop**). This version can be extended to a freely programmable system by adding a positioning controller.
hydraulic	The hydraulic version convinces through sheer strength. It can provide holding forces of up to 25kN. The column is available with either a plunger cylinder with foot pump, a hydraulic cylinder with positive locking (CyLock), or a standard cylinder.
electromotive	The drive through a spindle motor can be either A.C. or D.C. voltage. The 220V motors have an end-of-travel cutoff. This quiet and clean variation is used primarly in laboratory and medical engineering and for ergonomic design of workplace.

Application example

Overcoming differences in height is one of **CyLift's** specialties. We recommend a 24V drive with battery or a simple footpump for mabile applications.

Stacking is a specialty of pneumatically operated **CyLift** . The integrated lock reacts precisely and safely to external signals. Complete solutions with controls can be combined with modular systems.

Adjustment for different desk and chair heights.

Various possibilities are seen in medical engineering. From height adjustable treatment chairs through operating tables and transfer couches, all applications are conceivable.

ALTEC
antriebstechnik

PFAFF
silberblau

PHOENIX

Telescopic Lifting Column

PHOENIX

Single-step version

The „PHOENIX“ telescopic lifting column is a compact lifting system with integrated guiding arrangements made of high-quality, anodized precision aluminium profiles, worm gear screw jacks from the MERKUR range and a directly mounted motor. They can be used independently or as a complete lifting system. Synchronization can be effected electric or via a mechanical connection by means of articulated shafts.

Operational features of our „PHOENIX“ Telescopic Lifting Column

- Bears heavy compression and tensile loads
- Enclosed, low-maintenance design
- Flexible modular system
- Off-center load pick-up is admissible
- Self-locking mechanism in the TGT trapezoidal version
- Fast lifting speed in the version with the two-start trapezoid screw (TGT) or ball screw (KGT)
- Maximum duty ratio 20%/h or 15%/10min
- Maximum ambient temperature 40° C
- Short delivery times

Technical data

Type	Fmax. lift (with centered load)	v	Lift	Mounting dimension L	Motor	Spindle
PH56	25000 N	6 mm/s	200 mm	Lift+350 mm	1,1 kW / 400V	TGT
	15000 N	12 mm/s	400 mm		1,1 kW / 400V (with brake)	
	10000 N	24 mm/s	600 mm		1,1 kW / 400V	
		20 mm/s			1,1 kW / 400V (with brake)	KGT
		40 mm/s	800 mm		1,1 kW / 400V (with brake)	
PH45	5000 N	37,5 mm/s	1000 mm	Lift+300 mm	0,55 kW / 400V	TGT
	10000 N	9 mm/s			0,75 kW / 400V	
PH34	5000 N	7,5 mm/s	200 mm	Lift+260 mm	0,25 kW / 400V	TGT
		15 mm/s	400 mm		0,37 kW / 400V (with brake)	
		5 mm/s	600 mm		0,20 kW / 24V (with brake)	

Basic features

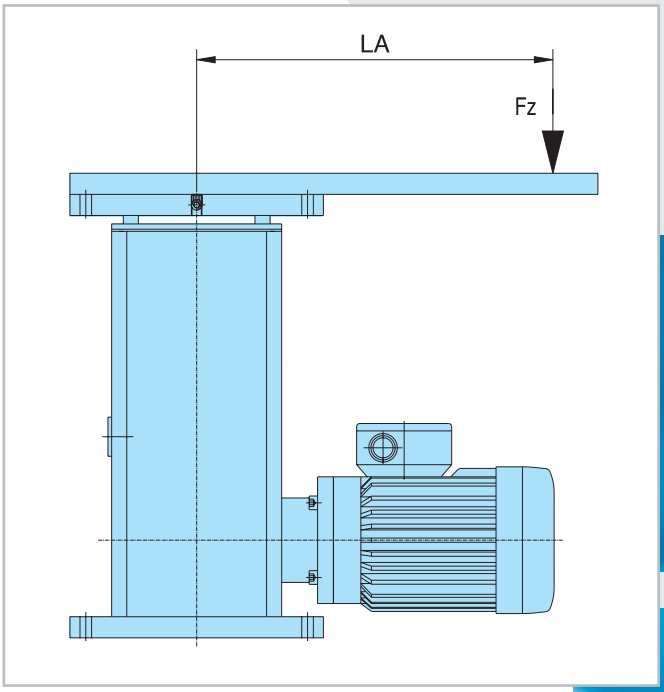
- Short safety nut for trapezoid screw (TGT)
- Conformity with German VBG 8 regulations
- IP 55 type of protection
- Inductive limit switch for setting the upper and lower end positions

Available as options on request

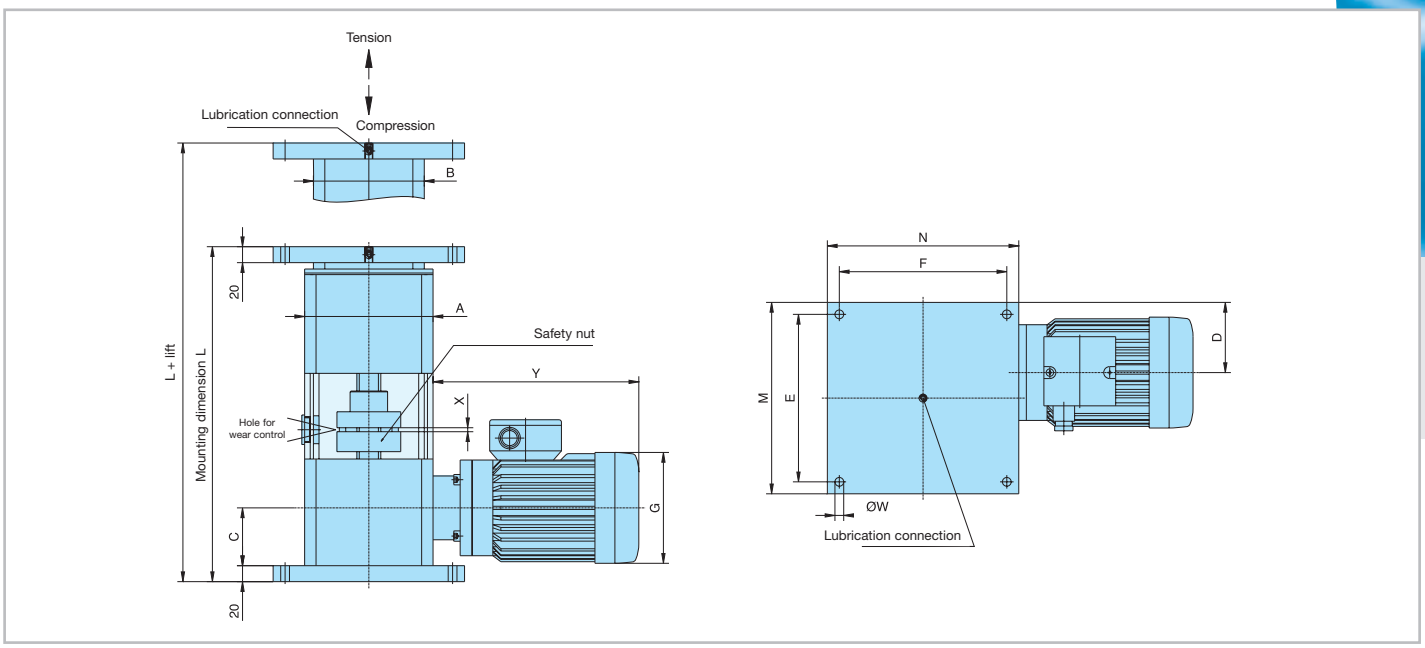
- Version with safety nut for ball screw (KGT)
- Controll system (see our catalog „Actuator Technics“, chapter „Accessories“)
- Version with encoder
- Servomotor with programmable control system

Permissible off-center load

Type	Max. permissible load (Fz) for distance LA (mm)					
	50	100	200	300	400	500
PH56	25 kN	21 kN	10,5 kN	7 kN	5,25 kN	4,2 kN
PH45	10 kN	10 kN	8,4 kN	5,6 kN	4,2 kN	-
PH34	5 kN	5 kN	5 kN	4,2 kN	-	-



Dimensions



Type	A	B	D	N	M	F	E	W	Y	G	C	X	Lubrication connection 2x	Y-brake
PH56	183x183	161x161	75	240	240	210	210	11	300	160	90	5	M10x1	362
PH45	161x161	139x139	88	240	240	210	210	11	260	140	72,5	5	M10x1	317
PH34	139x139	117x117	75	200	200	170	170	11	220	125	56	5	M10x1	269
PH34*	139x139	117x117	75	200	200	170	170	11	-	80	56	5	M10x1	405

* with 24 V motor

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CERTIFIED IQNet MANAGEMENT SYSTEM

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Müller's Agentur, Augsburg, Germany 02/2004

Control units MAGTRONIC

KOM 1 / 2

Technical data	Type	KOM 1	KOM 2
Type of control		Low voltage	Microprocessor [1]
Motor connection		4	5 (4 w.limit switch)
Limit switch connection optional		1	1
Operating element connection		1	1
Mains connection		1	1
Voltage/frequency	V/Hz	230/50	230/50
Voltage/frequency	V/Hz	120/60	120/60
Voltage/frequency	V/Hz	100/50-60	100/50-60
Output power		24 V DC/6 A	24 V DC/6 A
Duty cycle: Intermittent mode	Int.	1 min./9 min.	1 min./9 min.
Ambient temperature		0/+40	0/+40
Degree of protection	IP	66	66
Approvals		EN 60601.1 and EN 60601.1-2 UL 2601	EN 60601.1 and EN 60601.1-2 UL 2601
Weight	kg	5.8	5.8

1.) The control unit is not first failure-safe.

KOM 1 control unit

The KOM control unit has been developed for the operation of MATRIX/MAGLIFT linear drives and TELEMAG telescopic columns in 24 V direct current technology.

The KOM 1 control unit with integrated transformer and rectifier has plug connections for mains cable and hand-held or foot switch, as well as up to 4 motor connections and 1 limit switch connection (option). Optionally a hand-held/foot switch or else an infrared receiver can be plugged in directly at the control element connection. All control and motor supply cables are locked after correct connection and sealed by sealing rings.

Thanks to intelligent circuitry, in no-load operation it is not the main transformer but an auxiliary transformer which is active and which maintains only the control voltage for the operating element (standby circuit).

The transformer in the KOM control unit is protected against overheating by thermal protection.

The integrated total current cut-off in the control unit prevents the current consumption being exceeded, as is the case on driving onto a stop or on overload and thus protects the drives.

The motor outputs can be delivered optionally with individual current cut-off. Four 6 V batteries connected in series can be delivered as an option for the KOM 1 control unit. The batteries are installed in the compartment of the control unit provided for this. This permits operation independent of the mains for a limited period. The capacity of the batteries is 1.2 Ah. A discharge is indicated by an acoustic signal.

The KOM 1 control unit is available ex works in two versions, without batteries, or completely with batteries (not with individual current cut-off).

Only batteries delivered by the factory may be used. The battery compartment is ventilated separately.

In mains operation, the batteries are charged automatically, an electronic overload and total discharge protection is integrated. It is still possible to lower the drive on discharge.

The control box is ultrasonically welded and has the degree of protection of IP 66.

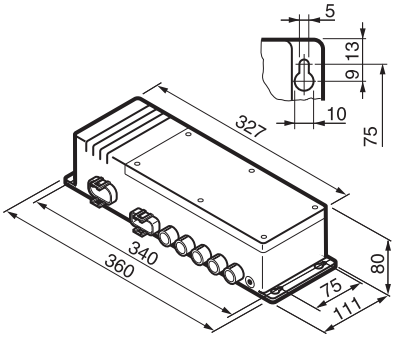
KOM 2 control unit

The KOM 2 control unit has been developed in microprocessor technology for many types of application:

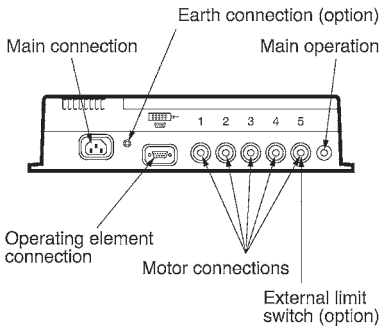
- Single operation of up to 5 drives
- Parallel running of 2 or 2 x 2 drives (except for MAGLIFT)
- Memory function of up to 3 drives (except for MAGLIFT)
- Single operation of up to 3 drives and parallel running of 2 drives (except for MAGLIFT)

The drive groups cannot be operated simultaneously.

These varied possibilities of combination open up new solutions in drive engineering. However, you must make sure for all combinations that only one function can be performed in each case. The technical construction corresponds in its basic principles to the KOM 1 control unit with up to 5 motor connections or 4 motor connections and 1 limit switch connection (option).



KOM 1 / 2 control unit



KOM 1 / 2 connections

Both special hand-held or foot switches, as well as a special infrared receiver are required for the microprocessor control. Batteries can also be delivered as an option for the KOM 2 control unit.

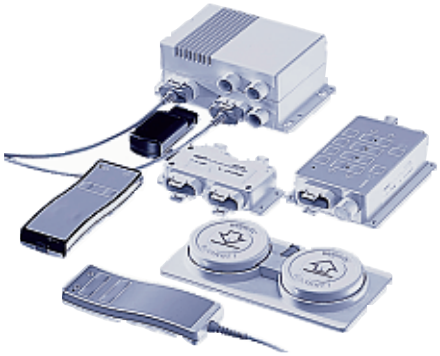
Installation, dimensioning and capacity are identical with the KOM 1. The housing is also ultrasonically welded and has the degree of protection of IP 66.
The technical instructions must be complied with on starting up. Applications which do not exclude danger to persons must be provided with guards by the user.

To achieve a high degree of operating convenience and safety, the KOM 1 / 2 control units can be extended with a number of accessories, please refer to data sheet L5308,2940E.

Please refer to data sheet L5328,2935E for the various possibilities of interconnecting the drive and control elements.

Subject to technical modifications. The manufacturer/user must check the compatibility of Magnetic products of his application.

L5328,2910E.0/09.02



Control units MAGTRONIC

KOM 3 / 4

Technical data	Type	KOM 3	KOM 4
Type of control		Low voltage	Mikroprocessor [1]
Motor connection		3 (2 w.limit switch)	2
Limit switch connection optional		1	1
Operating element connection		1	1
Mains connections		1	1
Voltage/frequency	V/HZ	230/50	230/50
Voltage/frequency	V/HZ	120/60	120/60
Voltage/frequency	V/HZ	100/50–60	100/50–60
Output power		24 V DC / 6 A	24 V DC / 6 A
Duty cycle: Intermittend mode	Int.	1 min./9 min.	1 min./9 min.
Ambient temperature		0/+ 40	0/+ 40
Degree of protection	IP	66	66
Approvals		EN 60601.1 and EN 60601.1–2 UL 2601	EN 60601.1 and EN 60601.1–2
Weight	kg	2.8	2.8

1.) The control is not first failure-safe.

KOM 3 small control unit

The KOM small control unit has been developed for requirements in the operation of a maximum of 3 MATRIX/MAGLIFT linear drives or TELEMAG telescopic columns in 24 V direct current technology.

The KOM 3 small control unit with integrated transformer and rectifier has plug connections for mains cable and handÏ-held or foot switch, as well as up to 3 motor connections or 2 motors and 1 limit switch connection (option).

Optionally a hand-held/foot switch or else an infrared receiver can be plugged in directly at the control element connection. All control and motor supply cables are locked after correct connection and sealed by sealing rings.

Thanks to intelligent circuitry, in no-load operation it is not the main transformer but an auxiliary transformer which is active and which maintains only the control voltage for the operating element (standby circuit).

The transformer in the KOM control unit is protected against overheating by thermal protection.

The integrated total current cut-off in the control unit prevents the current consumption being exceeded, as is the case on driving onto a stop or on overload and thus protects the drives.

The control box is ultrasonically welded and has the type of protection of IP 66.

KOM 4 small control unit

The KOM 4 small control unit has been developed in microprocessor technology for many types of application:

- Parallel running of 2 drives (except for MAGLIFT)
- Memory function of 2 drives (except for MAGLIFT)

These varied possibilities of combination open up new solutions in drive engineering. However, you must make sure for all combinations that only one function can be performed in each case.

The technical construction corresponds in its basic principles to the KOM 3 control unit with up to 2 motor connections and 1 limit switch connection. The connector is available after having removed the cap from the corresponding socket.

As in the KOM 3 control unit, an auxiliary transformer is active in no-load operation.

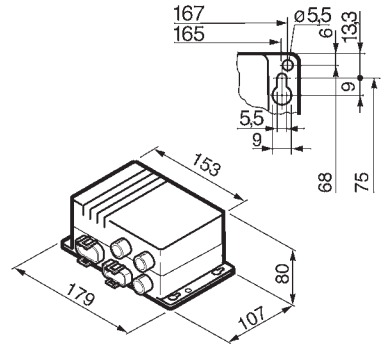
For the Memory function, a long life lithium cell has been integrated into the control unit, in order to maintain the programmed data in case of loss of the mains voltage.

Both special hand-held or foot switches, as well as a special infrared receiver are required for the microprocessor control. The housing is also ultrasonically welded and has the degree of protection of IP 66.

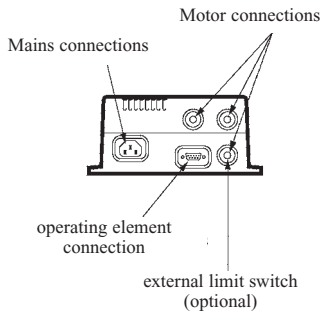
The technical instructions must be complied with on starting up. Applications which do not exclude danger to persons must be provided with guards by the user.

To achieve a high degree of operating convenience and safety, the KOM 3 / 4 control units can be extended with a number of accessories, please refer to data sheet L5308,2940E.

Please refer to data sheet L5328, 2935E for the various possibilities of interconnecting the drive and control elements.



KOM 3 / 4 control unit



KOM 3 / 4 connections

Subject to technical modifications. The manufacturer/user must check the compatibility of Magnetic products of his application.

L5328,2915E.0/09.02

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The Linear Drives Company™

Control units MAGTRONIC

KOM 3T with toroidal transformer

Technical Data	Type	KOM 3T
Type of control		Low Voltage
Motor connection		2
Endschalteranschluss		1
Operating element connection		1
Mains connection		1
Voltage/current/frequency	V/A/HZ	230/1.6/50-60
Voltage/current/frequency	V/A/HZ	120/3.0/50-60
Output power	V/A	2x24/2x5
Duty cycle: intermittent mode	Int.	1 min./9 min.
Ambient temperature	°C	+10/+ 40
Degree of protection	IP	66
Protection class	standard	II
Approvals		EN 60601-1 and EN 60601-1-2 UL 2601
Weight	kg	1,9

KOM 3T control unit

The control unit KOM3T has been developed for the operation of TLT TELEMAG 24 VDC telescopic column.

KOM3T with integrated toroidal transformer and rectifier is equiped with connection ports for mains-cable, handswitch and up to 2 motors (e.g. for one TLT double stroke TELEMAG) and 1 limit switch connection (optional).

Either a hand-switch, a foot-switch or an infrared receiver can be plugged in directly at the control element connection. All control and motor supply cables are locked after correct connection and sealed by sealing rings.

The toroidal transformer in the KOM3T control unit is protected against overheating by thermal protection. It has a minimal electronic emission and a consumption of nearly 0 Watt in the no-load operation.

There is a separate current cut-off integrated for each motor. This prevents current consumption being exceeded, as in the case of driving onto a stop or on overload and thus protects the drives.

The control box is ultrasonically welded and has the degree of protection IP66.

The technical instructions must be followed when installing and starting up the unit. Applications which do not exclude danger to persons must be safely secured by the user.

To achieve a high degree of safety, the KOM3T control unit can be combined with a number of accessories, please refer to data sheet 530E, 2940.

Please refer to data sheet 530E, 2935 for the various possibilities of interconnecting the drive and control elements.

Info-number: 530E, 2917/0.99

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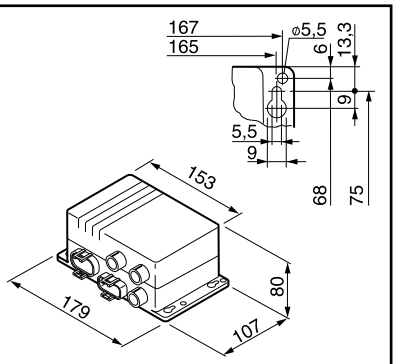
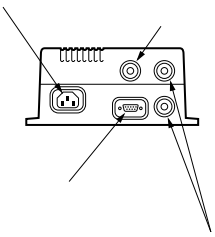


KOM 3T control unit



KOM 3T connections

Subject to technical modifications.
The manufacturer/user must check
the compatibility of Magnetic products of his application.

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Control units MAGTRONIC

KOM 6
Single fault safe processor control unit

Technical Data:	Type	KOM 6
Type of control	N	Microprocessor
Motor connection		4
External options		1
Operating element connection		1
Mains connection		1
Voltage/frequency	V/HZ	230/50
Voltage/frequency	V/HZ	120/60
Voltage/frequency	V/HZ	100/50-60
Output power		24 V DC/ 6 A
Duty cycle: intermittent mode	Int.	1 min./9 min.
Ambient temperature	°C	0/+40
Degree of protection	IP	X6
Approvals		EN 60601-1 and EN 60601-2-38 Single fault safety
Weight without/with battery	kg	2,7/4,0

KOM 6 control unit

The KOM control units have been developed for the operation of MATRIX/MAGLIFT linear drives and TELEMAG telescopic columns in 24 V direct current technology.

The KOM 6 control unit allows a single fault safe operation in medical applications (e.g. hospital beds) and fulfils completely all requirements of the medical product regulation. The KOM6 control unit with integrated transformer and rectifier has plug connections for mains cable and hand switch as well as up to 4 motor connections and 1 optional connection. A hand switch can be directly plugged in the operating element connection. All control and motor supply cables are locked after correct connection and tightened by sealing rings.

Thanks to smart circuitry, in no-load operation it is not the main transformer but an auxiliary transformer which is active.

The transformer in the KOM control unit is protected against overheating by thermal protection.

The single fault safety of the KOM 6 control unit is defined by two different processors. The control unit only works when both processors are operational. The motors are isolated from the power supply by a safety device that only operates when the operating element is activated in order to prevent that the motors start to run on their own.

Four 6V batteries connected in series can be delivered as an option for the KOM 6 control unit. The batteries are installed in an especially provided compartment of the control unit thereby permitting mains-independent operation for a limited period. The batteries capacity is 1.2 Ah.

Only batteries delivered by the factory may be used. The battery compartment is ventilated separately.

In mains operation, the batteries are charged automatically, an electronic overload and a total discharge protection is integrated. In battery operation, an acoustic signal indicates a discharge. Even then, it is still possible to lower the drives.

The control box is ultrasonically welded and has the degree of protection of IP X6.

The KOM 6 control unit has been developed in single fault safe microprocessor technology for many kind of applications. It has been approved according to EN 60601-1/-2-38 and by the German TÜV.

The following functions are possible:
- Single operation of up to 4 drives
- Parallel running of 2 or 2x2 drives
- Memory function with 3 positions, free of choice
- Combinations of the above variations
- Customer-specific solutions

The drive groups cannot be operated simultaneously.

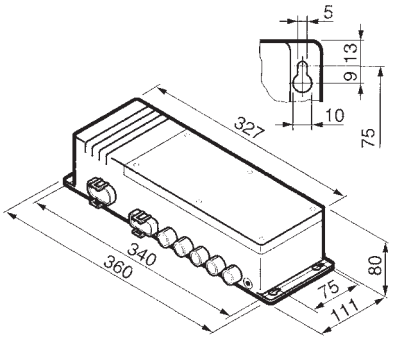
These varied combination possibilities present new solutions in drive engineering. However, please note that in all combinations only one particular function can be performed. The technical construction corresponds in its basic principles to the KOM 2 unit with up to 4 motor connections or 3 motor connections and 2 external options.

A special hand switch (EHE 6) as well as special locking device (SPP 6) are required for single fault safe microprocessor control unit.

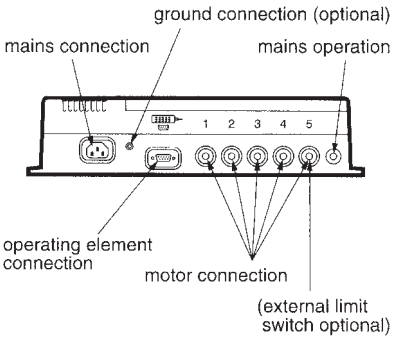
The following functions are optional: emergency stop and limit switch. In addition, an external battery pack is available.

The control unit has to be operated in compliance to the technical instructions. Applications which do not exclude danger to persons must be provided with guards by the user.

There are many accessories to the KOM 6 control unit available to offer a high degree of operation comfort and safety.



KOM 6 control unit



KOM 6 connections

Subject to technical modifications. The manufacturer/user must check the compatibility of Magnetic products of his application.

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